BER 1961

House & Home



new products

new tools

new methods

to build better for less



Style Supremacy ...@ $4.50 sq.yd.

Congoleum-Nairn has startled the building world with its brilliant design leadership. Now we present "Tangier," vinyl-plus linoleum — style and budget news. Here is today's most popular floor fashion by the yard —3-DIMENSIONAL inlaid mosaics—at 25% to 40% less cost! Write for a free sample of "Tangier" today. Address Home Builder Service Department, Congoleum-Nairn Inc., 195 Belgrove Drive, Kearny, New Jersey.

Congoleum-Nairn
FINE FLOORS



MASTER STATION
AM MODEL 2053
SILVER ANODIZED

AM

SWEEPING THE NATION !

Only 3 months ago NuTone introduced its sensational new line of built-in Intercom-Radios and already they're piling up tremendous Builder, Contractor and Architect acceptance coast-to-coast.

It's because these new NuTone systems are so revolutionary . . . in design . . . performance . . . and especially, COST! They can't be matched anywhere, in their price range.

They're Custom-engineered . . . in your choice of four AM/FM and AM sets . . . and three sizes of Remote Speakers.

More prospects become buyers, when you offer them time and step-saving Intercom PLUS the luxury of music throughout the home. Call your NuTone supplier for a demonstration . . . NOW!

NuTone

Intercom & Radio



MASTER STATION
AM-FM MODEL 2058
COPPER ANODIZED

FM

SEE NEXT PAGE →

SEE OTHER SIDE

NuTone

Room to Room Intercom plus Music

Doorway **Nursery** **Living Room**

Speak to strangers without opening door



Keeps an ear on child in nursery or playroom



Each room can originate calls to any other





Talk to any room without wasting time



A bedside companion for sick-room



Talk to your family inside or outside

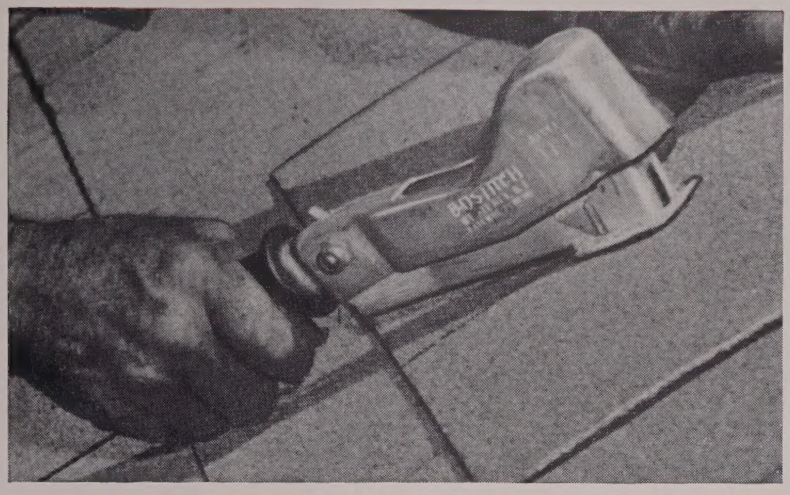
Workshop **Bedroom** **Patio**

A Speaker for Any Room only $7.50

NOW . . . without costly monthly rentals — year in and year out. With a NuTone Built-in Intercom-Radio System you can add Music — PLUS the convenience of Intercom . . . to any room for only $7.50 for each Speaker!

NEW CATALOG • NUTONE, INC., Dept. IO, Cincinnati 27, Ohio

You get more roofing profits with every swing of a Bostitch H4 Stapling Hammer



Why? Because applying asphalt shingles with the Bostitch H4 Stapling Hammer is as much as four times faster than with hammer and nails, giving you time to do more jobs.

It takes only six swings to fasten each strip of shingles with ¾" galvanized staples. Roofing is faster with the H4 and staple legs spread inside roof deck for maximum holding power. Staging time is cut, too.

More and more builders are saving time and money and earning better profits with Bostitch. See your building supply dealer for a demonstration.

Other Bostitch products help you speed work, increase profit



THE BOSTITCH H5 STAPLING HAMMER

is best for fast, light tacking jobs. It's the almost "no-fatigue" way to install builder's paper, foil-type insulation and vapor barriers.



THE BOSTITCH T-5 TACKER

—the standard by which all spring tackers are compared. Operates with easy squeeze of hand. Small nose permits staple location as close as one-sixteenth inch to inside of rabbet. Cuts time on every job. Also made with heavy spring for hard-to-penetrate materials.



THE BOSTITCH H2B STAPLING HAMMER

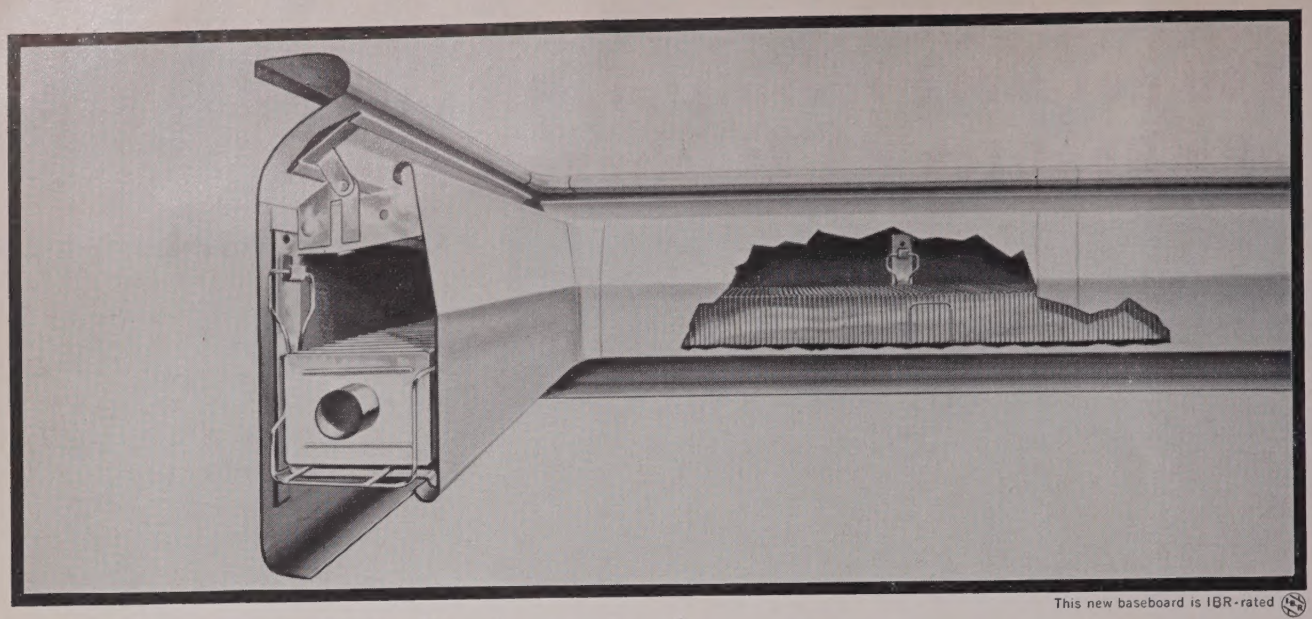
is designed to cut costs on medium tacking or nailing jobs such as insulation, building paper, undercourse shakes. Fast one-hand operation—other is free to position work. Pay for itself on a few jobs.

Profits are better and faster with

BOSTITCH®
STAPLERS AND STAPLES

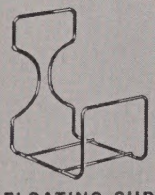
530 BRIGGS DRIVE, EAST GREENWICH, RHODE ISLAND

HOUSE & HOME October 1961 Volume 20 Number 4. Published monthly by TIME INC., Rockefeller Center, New York 20, N. Y. This is published in National and Western editions. Second-class postage paid at New York, N. Y. and at additional mailing offices. Authorized as second class mail by the Post Office Department, Ottawa, and for payment of postage in cash. Subscription price $6.00 a year.

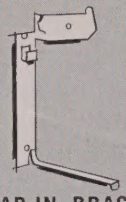


This new baseboard is IBR-rated

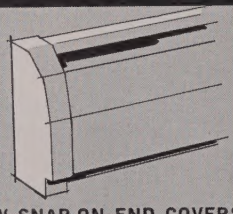
National-U.S. introduces new and improved baseboard heating 8 ways better! (...and it's a snap to install!)



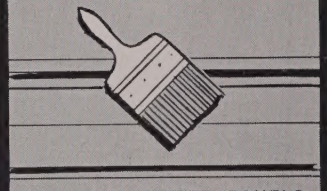
NEW FLOATING SUPPORTS free heating element of all hanger and panel contact for truly quiet operation.



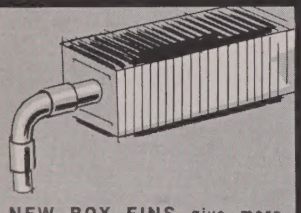
NEW SNAP-IN BRACKETS need no screws or fasteners to stay in place.



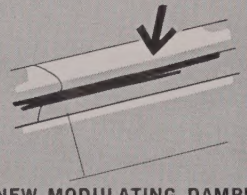
NEW SNAP-ON END COVERS with rounded edges match panel contour perfectly. Snap-in door provides handy access to valves. They're easy to install . . . fit tight.



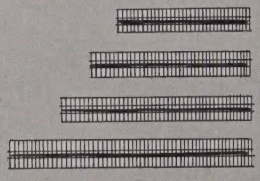
NEW PRE-PAINTED PANELS do away with need for painting. If custom painting is required, white semi-gloss acts as a prime coat.



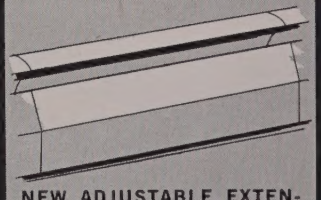
NEW BOX FINS give more strength to heating elements . . . make installation easier, more convenient.



NEW MODULATING DAMPER can be supplied with each panel length to provide separate temperature control for each room.



NEW PRE-CUT PACKAGING lets you select 3, 4, 5 and 8-foot lengths in any combination to eliminate cutting and fitting on the job.



NEW ADJUSTABLE EXTENSIONS let you easily combine uncut standard-length panels to cover any wall-to-wall distance.

Get all the details on National-U.S. baseboard panels and new, compact hydronic heating units for oil or gas fuel. See your contractor or National-U.S. representative or write National-U.S. at Crane Co., Box 780, Johnstown, Penna.

AT THE HEART OF HOME AND INDUSTRY

CRANE

VALVES AND PIPING
ELECTRONIC CONTROLS
PLUMBING
HEATING • AIR CONDITIONING

Make the heart of your home a selling center!

Continental by Westinghouse steals hearts . . . gives any kitchen the luxury look that sells homes. But it's more than a status symbol and more than a range. It's a compact food preparation center with all the automatic conveniences dear to the hearts of women. Just behind the retractable platform is the exclusive Pantry Shelf, a real convenience. The Magic Mirror Oven Door both reveals and conceals. Light on . . . you see in. Light off . . . neat as a pin. Everything comes out for easy cleaning. And for builders it has practical advantages . . . ♥ It offers the beautiful built-in look in a free standing range . . . mounts quickly and easily on a base cabinet. ♥ Special Westinghouse cabinets in Heirloom Maple and steel are available. ♥ Fits under standard 24″ wall cabinets in kitchens with a seven-foot soffit. ♥ No complicated wiring either . . . just a single connection. Available in de luxe and standard 30″ models. See them yourself and remember *. . . You can be sure . . . if it's Westinghouse.*

Continental by Westinghouse



Westinghouse appliances and Kitchen Cabinets, plus Heating & Air Conditioning, Wiring Devices, Micarta® Counter Tops, Apartment Elevators, are all available through one point of contact. See your Westinghouse residential sales manager or write Westinghouse Electric Corporation, Contract Sales Dept., Mansfield, Ohio.



A LONG-BELL "CONTRACTOR LINE" BIRCH KITCHEN

★TO INSURE PROFITS

LONG-BELL® Natural Wood Kitchens

Long-Bell's "Contractor Line" Natural Wood Birch Kitchens provide builders with an opportunity to add new feminine eye appeal to kitchen decor. These handsome, quality-built Birch veneer cabinets are specifically designed for new construction and renovation jobs where price is an important factor. They're engineered in 3″ modules for fast, simple installation to save on-the-job man hours, smoothly sanded to save final finishing time.

Long-Bell "Contractor Line" Birch Kitchens are the practical solution for cutting new home construction cost without loss of quality or sales appeal. They have the luxury look, the quality feeling, the wanted features that sell on sight. Plan now to include these attractive cabinets in *your* new building program.

All Long-Bell "Contractor Line" Birch Cabinets, including the corner lazy susan, wall, base, sink, range, oven and utility cabinets are available from stocks at three conveniently located Long-Bell warehouses. Fastest delivery is assured.

For complete information and prices on low-cost Long-Bell "Contractor Line" and Long-Bell Deluxe Natural Wood Kitchens, ask your dealer or write, wire or call your Long-Bell representative.

INTERNATIONAL PAPER
LONG-BELL DIVISION

MEMBER NATIONAL INSTITUTE OF WOOD KITCHEN CABINETS

A Quality Name in Forest Products

Kansas City, Missouri • Longview, Washington • Primos, Pennsylvania



Who changed the picture on winter building? KINGSBERRY!

And hundreds of Kingsberry Builders are proving it now!

Time was when home builders hibernated in winter like bears, waited till spring thaw to get going again. Most still do—passing up 3 months of profit. But how times have changed for Kingsberry builders!

Right now they are confidently erecting model homes for *winter* sale, in the biggest fall home sales spectacular ever launched, breaking November 25 in the Saturday Evening Post. Many of these are still closing sales from Kingsberry's May Sales Promotion!

1. First of all, with Kingsberry, they can erect a weather-tight house in a day with a 7-man crew, finish it within 2 to 3 weeks. They can build, promote and sell through winter.

But far more than this is behind their success.

2. They cut on-site labor costs up to 62%—cycle capital at less market risk—sell *ahead* of construction.

3. They can get no-red-tape construction financing direct from Kingsberry.

4. They enjoy color-spread advertising in the Saturday Evening Post . . . and the industry's most liberal co-op advertising plan, including up to $3,000 advance funds for local promotions. Plus use of the Salesmaker, the industry's only complete marketing program! Plus promotion material at cost! Plus on-the-spot services of Kingsberry-trained promotional experts.

5. And now they have another power plus—a complete model-home furniture package from decorator furniture to bric-a-brac and books, at an amazing price and 36-month terms. And in addition, a Carport Display to make winter selling easy and comfortable; that, too, at a new low price.

6. In fact, Kingsberry has every answer—and the proof—that you can keep operating profitably, keep your crews together, and be a jump ahead of your spring competition. Why not write today: Jerry Nowak, General Sales Manager, Kingsberry Homes, Fort Payne, Alabama.

KINGSBERRY HOMES

"PROGRESS IN HOUSING THROUGH ENGINEERING AND RESEARCH"

At the present time Kingsberry serves builders only in Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee.



See this Kingsberry ad on the "Happiest Housewarming Party of the Year," appearing full color, Saturday Evening Post, Nov. 25.



SUPERB NEW STYLING WITH CLASSIC QUALITY

THERMADOR

BILT-IN ELECTRIC OVENS

For pleasurable cooking and proud entertaining—choose a Thermador Bilt-in electric oven, in easy-to-clean modern design. Thermador has so much so new!—easy-to-use automatic oven-timer, Temp-Matic meat thermometer, self-starting 3-spit rotisserie for rotary-broiling (a Thermador exclusive), re-designed oven interior with all racks and supports removable—added to Thermador's tradition-of-quality features. Single, Bi-level and Side-by-Side combination models for flameless electric cooking. In Canyon Copper, Desert Pink, Turquoise, Daffodil Yellow, Sugar White or lustrous Lifetime Stainless Steel. Color-matching exhaust hoods and 17 models of Bilt-in electric cooking-tops, too. See your Thermador dealer, or write for full-color catalog.



Perfect roasts every time, with Thermador's new Temp-Matic electric meat thermometer!



Thermador's exclusive air-cooled oven door is now removable for easy cleaning!



"Seven Leagues Ahead"

Originator of the Bilt-in Range
THERMADOR Electrical Mfg. Co. Dept. HH-1
Division of Norris-Thermador Corp.
5119 District Blvd., Los Angeles 22, Calif.

Please send free illustrated literature about Thermador Bilt-in Electric Ranges.

Name: _____

Address: _____

City: _____ State: _____



Popular new Lectro-Host, free-standing or Bilt-in, has double ovens above!



GANG-NAIL® does it better!

GANG-NAIL® does it cheaper!

GANG-NAIL® does it stronger!

GANG-NAIL® does it faster!

GANG-NAIL® does jobs others CAN'T!

Mr. Builder:

Save up to $200 per house! (Often much more!) Save lots of costly man-hours. Save on waste, too. Every Gang-Nail truss fits truer and tighter. They're precision-built with a precision connector plate, for easier and faster installation.

And your local Gang-Nail Fabricator gives you faster service at lower cost! He has the finest automated equipment. Plus the largest assortment of roof and floor trusses, interior and exterior wall panels of any local component fabricator, VA and FHA approved.



FOR RELIABLE COMPONENT INFORMATION — WRITE OR WIRE US TODAY FOR THE NAME OF YOUR NEAREST GANG-NAIL FABRICATOR

ABC

Automated Building Components, Inc.

(formerly Gang-Nail Sales Co., Inc.)

7525 N.W. 37th Ave. Miami, Florida

If you are a promotional-minded builder, this could be the most important ad you've ever read . . . it's written by one of the nation's largest home builders

"Lennox changed my mind about manufacturers' merchandising programs ...this one really helps to sell homes"

(Here, in the builder's own words, taken from an actual tape recording, are some of the reasons Mr. Albert Mars of Alvin Homes, Cleveland, Ohio, is sold on the new Lennox Merchandising Programs. Alvin Homes has been in business here for 10 years—with a home building volume in excess of 2,000 homes this year.)

Albert Mars, Alvin Homes, Cleveland, Ohio:

"Never in my life (even after 10 years in the appliance industry) have I ever seen a manufacturer with so much promotional material . . . so many tools that builders can use for selling their homes. Lennox is interested in selling the builder's homes, which automatically sells the Lennox furnace. They have brochures like I've never seen . . . I mean, that are fabulous. They are the type of people we have to do business with. To top this whole thing off, Lennox has John Cameron Swayze to help builders. Lennox is the only manufacturer that is promotional-minded enough and has the merchandising programs for any builder anywhere. If more manufacturers would use this type of thinking, builders would not be faced with an inventory of unsold homes."



John Cameron Swayze, third from left, with owners of Alvin Homes (left to right) Alvin Siegal, Carl Milstein, Al Mars.

John Cameron Swayze, ABC Radio Personality:

"You, too, can use the new builder merchandising program provided by Lennox. It's an exclusive Lennox program that will help you sell your homes. I'm proud to play a part in this program. You will see me in the colorful tract brochures, preprinted flyers, billboards and newspaper ads. There are even cut-outs for use in your model homes to point out your best sales features. In many instances, I have prepared special personalized radio spots announcing a builder's open house. I also broadcast coast-to-coast each weekday evening on the Lennox Weather News (ABC radio network).

"The folks at Lennox have spent thousands of dollars to determine what you, the builder, need to help sell your homes, and to prepare this program. Too generous an attitude? Not at all. It's completely realistic. For when *you* sell a home, Lennox has also made a sale. The folks at Lennox know that the way to sell their product is to sell your homes!"

For more information about the Lennox Merchandising Programs, check with your Lennox representative or write Lennox Industries Inc., 325 South 12th Avenue, Marshalltown, Iowa.



Don't be satisfied with less than

LENNOX®

HEATS, COOLS, TREATS AND MOVES AIR



LENNOX Industries Inc., est. 1895—Marshalltown, Iowa; Columbus, O.; Syracuse, N.Y.; Decatur, Ga.; Ft. Worth, Tex.; Salt Lake City, Utah; Los Angeles, Calif. LENNOX Industries (Canada) Ltd.—Toronto, Montreal, Calgary, Vancouver, Winnipeg



To EACH HiS OwN

G-P REMODELING MATERIALS REWARD **YOU** AND **YOUR CUSTOMERS**

Georgia-Pacific has a wide variety of materials that **speed work time . . . cut your costs . . . create satisfied customers** that promote your business.

Consider what G-P provides ➡

GEORGIA-PACIFIC

OFFERS THE COMPLETE REMODELING PACKAGE...



MATERIALS THAT SHRINK WORK... STRETCH PROFIT

1. FACTORY-FINISHED PANELINGS

You install these 4′ x 8′ panels quickly, easily by nailing or gluing. No messy on-the-job finishing necessary. Customers can choose from a wide variety of beautiful patterns . . . **imported panelings** in rare woods and unusual faces . . . **textured panelings** in domestic woods . . . and the famous **"Family-Proof"** finished hardwoods that resist the roughest wear. There's a price to suit every budget, a pattern to suit every taste. Special sizes may be ordered.

2. SPECIALTY HARDBOARDS

Easily-installed perforated panels with the wainscot right on them are available in the new **Garage Liner,** ideal for storage walls in any part of the home. **Regular perforated** panels are also popular for the same purpose. G-P Hardboards are made in a wide choice of surfaces and finishes for cabinets, walls, partitions and underlayment. Attractive factory-finished hardboard panels are available to install without further finishing.

3. SIDINGS

You can order ready-to-install sidings from a wide variety of species and patterns. Consider the new **extra-wide reversible redwood Hacienda** siding—end and edge glued to form a striking design—smooth on one side, textured on the other. There's also **factory-sealed redwood bevel** siding that dramatically cuts on-the-job-costs. **GPX®overlaid plywood** sidings require 30% less paint, defy wear and, like all G-P materials, are easily workable to any design requirement. **Texture 1-11** and **V-grooved** patterns are offered in both overlaid and standard plywood. **G-P Ranch Panel** in economical exterior-grade plywood is pre-painted in Rural Red, will soon be available in other colors. GPX overlaid plywood sidings, including Texture 1-11 and V-grooved patterns, are available factory-primed.

4. 2•4•1 FLOORING

New **2.4.1 Flooring** serves as both subfloor and underlayment. Simplest, most efficient flooring you can use . . . 1⅛″, 4′ x 8′ T&G panels can be used over framing 48″ o.c., dramatically cutting installation time and costs. Both T&G and conventional edge available. 2.4.1 is an excellent base for **Flexible Oak Flooring,** new ⅛″ x 9″ x 9″ floor tiles of high-grade oak, prefinished with a tough catalyzed resin. Special processing provides flexibility to follow normal subfloor contours and dimensional stability. Easy to install.

5. SHEATHING & PLYWOODS

Highest quality **fir plywood sheathing** is offered for all sheathing, subflooring and roof deck applications, in all standard sizes and 5 thicknesses, bundled for easy handling. **G-P Douglas Fir Plywood** is available in a wide range of grades and sizes, overlaid and standard . . . plywood with the vital quality "plus".

JOIN G-P IN A *BOOMING MARKET

Georgia-Pacific encourages the growing demand for adding or remodeling entire rooms with national advertising that tells your customers the advantages of G-P materials. G-P provides leads for you with the new EXPAND-A-HOME remodeling sales promotion at your building materials dealer's.

*

The annual home improvement market has increased almost 100% in the past 3 years, according to U. S. Government estimate. In 1960, Americans spent $15½ billion on the home improvement market, as compared to about $16 billion in new home construction.

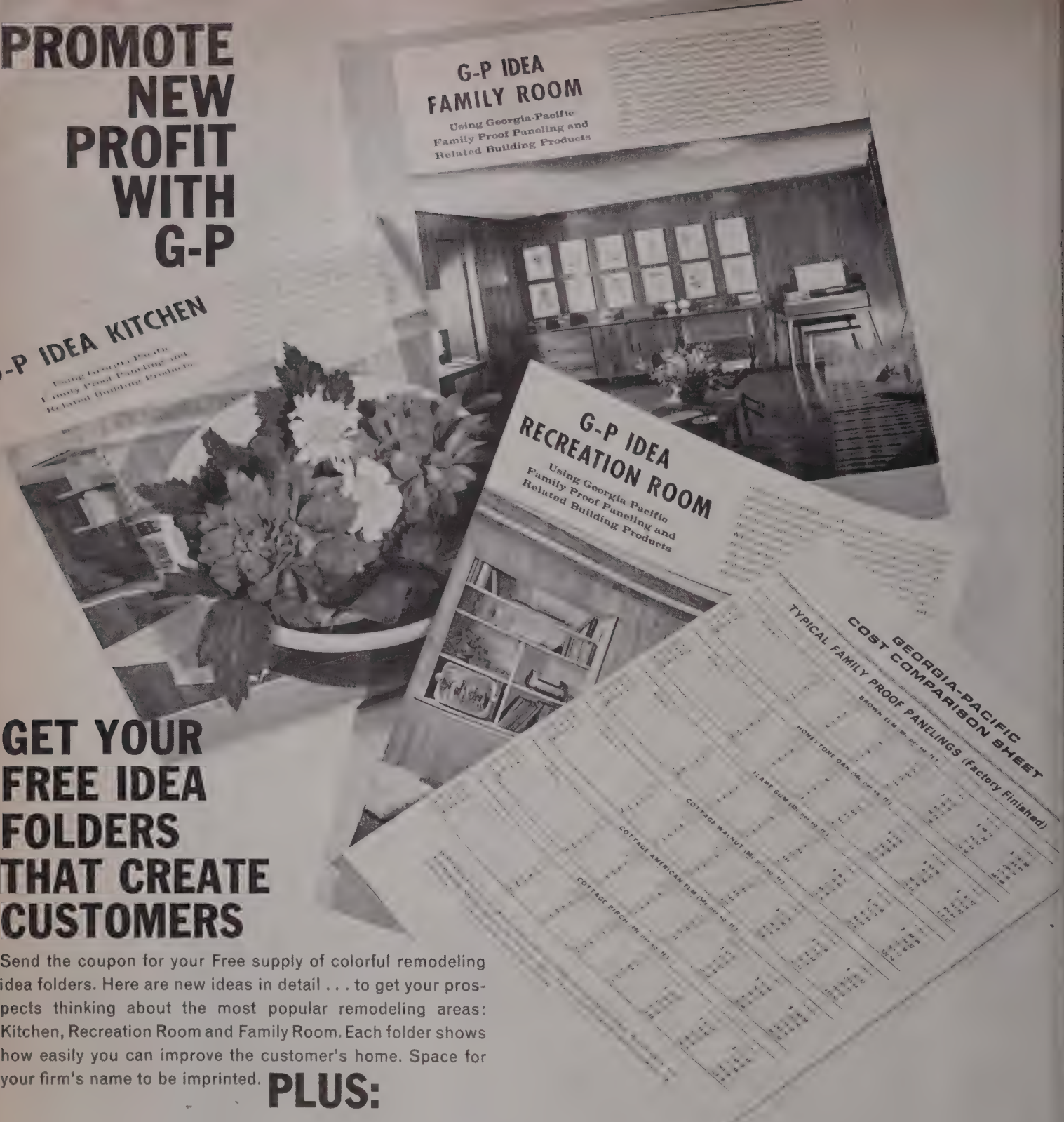
GP

GEORGIA-PACIFIC

PROMOTES YOUR SALES WITH

EXPAND-A-HOME IDEAS, FREE

PROMOTE NEW PROFIT WITH G-P



GET YOUR FREE IDEA FOLDERS THAT CREATE CUSTOMERS

Send the coupon for your Free supply of colorful remodeling idea folders. Here are new ideas in detail . . . to get your prospects thinking about the most popular remodeling areas: Kitchen, Recreation Room and Family Room. Each folder shows how easily you can improve the customer's home. Space for your firm's name to be imprinted.

PLUS:

Handy cost chart in each folder, giving approximate costs of materials for various types of remodeling jobs . . . a good guide for your customer.

Georgia-Pacific is a member of the Douglas Fir Plywood Association, sponsor of **"DAVID BRINKLEY'S JOURNAL" Wednesday evenings, NBC-TV**

COUPON

Georgia-Pacific, Dept. HH-1061,
Equitable Bldg., Portland, Oregon.
Please send me my free supply (20 each) of G-P remodeling idea folders.

Name_____

Address_____

City_____ County_____ State_____

YOU SELL MORE WITH GEORGIA-PACIFIC

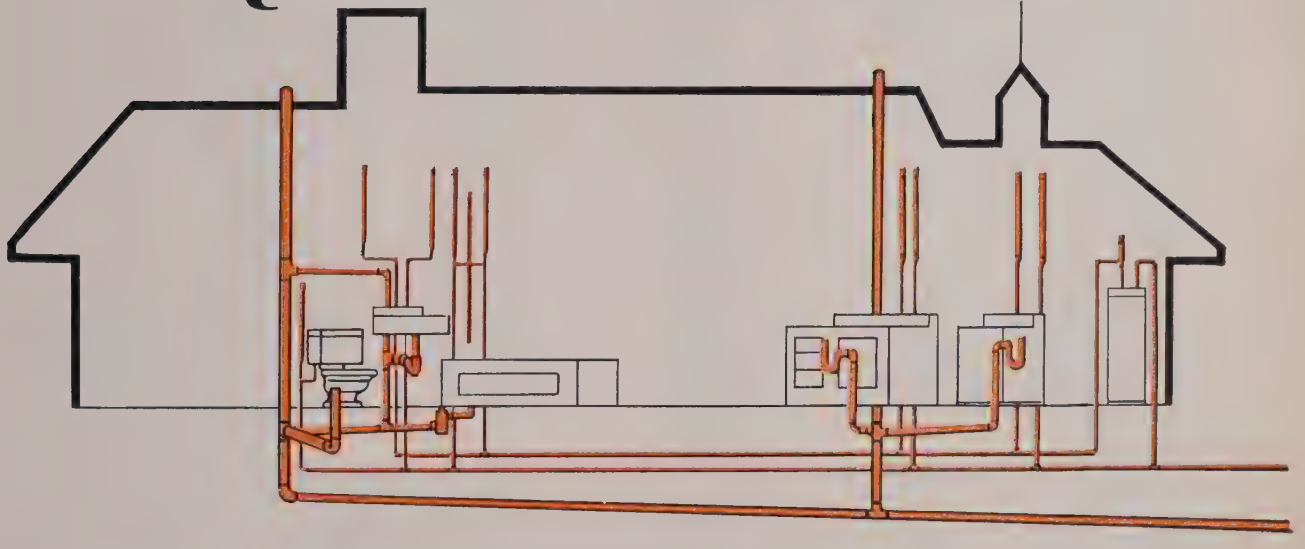
plywood • lumber • redwood • hardboard • pulp • paper • chemicals

Visit us at NAHB Convention, Booth 1253

QUALITY OUTSIDE

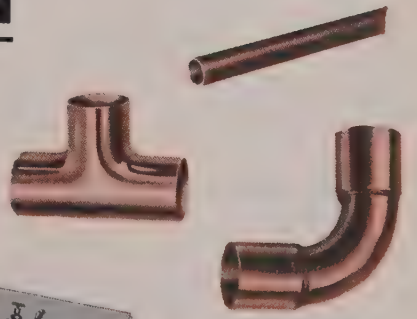


QUALITY INSIDE



Streamline® COPPER TUBE AND FITTINGS FOR A MODERN PLUMBING SYSTEM...

A modern plumbing system, fabricated from Streamline copper tube and fittings, is the mark of quality in any home. Such a system costs no more than one made of rustable materials yet has many outstanding advantages. Plumbing contractors like copper's ease of handling and installing. Builders like the space-saving feature of copper drainage (standard 3" stack fits within a 2" x 4" partition . . . "furring out" is eliminated). Everyone likes the durability of Streamline supply and drainage systems. Copper quality costs no more, so why not specify and install Streamline tube and fittings?





Just Released!
New, Complete 66 page
Streamline Plumbing and
Heating Products Catalog S-361
. . . Write today for your copy.

MUELLER BRASS CO. PORT HURON 10, MICHIGAN

338



THIS WALL* IN PLACE: 2" x 4" STUDS—18¢ + ⅜" GYPSUM BOARD—10¢ + 2" FOIL-COVERED BLANKET

WHAT ARE YOUR IN-PLACE

COMPARE THEM WITH THE NATIONAL AVERAGE

*Figures are derived from *Means Building Construction Cost Data, 1961.* They do not include delivery, overhead, contingencies or profit. Wage rates are figured at $2.75 for a construction laborer and $3.85 for a carpenter.

2" x 4" Studding 16" Centers	Cost/Sq Ft
Double Top Plate Single Bottom Plate	.18
⅜" Gypsum Board	.10
2" Blanket Insulation, Foil-Clad	.15
Aluminum Siding	.54
TOTAL	.97

Get to know Alcoa® Aluminum Siding better. It's just about the best you can buy.

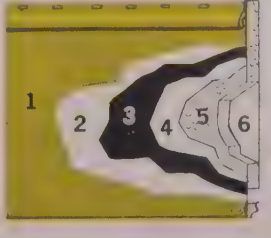


INSULATION—15¢ + ALCOA SIDING—54¢— TOTAL COST 97¢ PER SQ FT

WALL COSTS?

Alcoa Siding has many other virtues. It comes in a wide range of lasting colors, already applied. Its resistance to heat flow is high, so you may want to consider a smaller heating system. In many climates, you can forget conventional sheathing and nail insulated Alcoa Siding directly to the studs.

Write to Alcoa Building Products, Inc., 1857-K Grant Building, Pittsburgh 19, Pa., for more complete information on in-place wall costs and insulation values with Alcoa Siding.



1. Alumalure® Finish
2. Chemically Pretreated Surface
3. Alclad
4. Alcoa Aluminum
5. Insulating Foam
6. Alcoa Aluminum Foil

ALCOA SIDING
MADE BY ALCOA

MADE BY ALCOA

Entertainment at Its Best . . . **ALCOA PREMIERE** with Fred Astaire as Host . . . Tuesday Evenings, **ABC-TV**



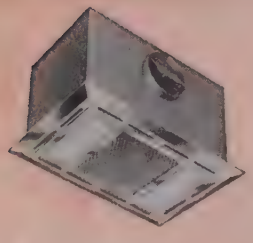
Hunter Bathroom Convection Baseboard

Popular, modern baseboard electric heating is now available in an attractive unit specially designed for bathroom installation.

Hunter Bathroom Convection Baseboard combines the safety, cleanliness and comfort of electric heat with functional styling. Polished chrome face-plate and white casing blend with modern bathroom fixtures.

A natural for all-electric homes, or as a supplemental bathroom heater, the Hunter Bathroom Convection Baseboard installs easily against wall at floor level. A built-in thermostat, end-mounted for convenience, automatically regulates comfort level. Advanced engineering permits greater metal-to-air ratios that provide faster heat transfer at low operating temperatures. Automatic thermal cut-out insures complete safety.

Unit is 34¼ inches long and 6⅜ inches high. Similar portable models are also available.



Hunter TRIO Ceiling Unit

- *HEATS*
- *LIGHTS*
- *VENTILATES*

Low-cost installation covers three requirements for modern bathrooms. Mounted flush in ceiling, the TRIO delivers instant warmth from nichrome heating elements, or electrically reverses its axial flow exhaust fan to ventilate room. Provides overhead illumination from two 60-watt lamps (not included). Also available: Hunter DUO Heater/Ventilator and Hunter Ceiling Heater.

HUNTER ELECTRIC HEAT
It's Matchless!

Hunter also makes a complete line of electric heating, ventilating and cooling equipment.

MAIL FOR COMPLETE DATA

Hunter Division—Robbins & Myers, Inc.
2410 Frisco Ave., Memphis 14, Tenn.

Please send data on new Hunter Electric Heat bathroom units to:

Name_____

Company_____

Address_____



an important
announcement
from

Weyerhaeuser

Weyerhaeuser is first to give builders



a marked edge of quality

BRAND-MARKED Kiln-Dried Dimension Lumber assures positive visual
PROOF OF QUALITY
in the homes you build



PROOF OF QUALITY



where buyers can see it—during construction and in completed structures. They know you are using quality Kiln-Dried materials from start to finish.

PROOF OF QUALITY



that *now* gives you a positive opportunity to sell your quality construction and workmanship just like other brand-name extras.

Weyerhaeuser

marks your homes with quality

PROOF OF QUALITY



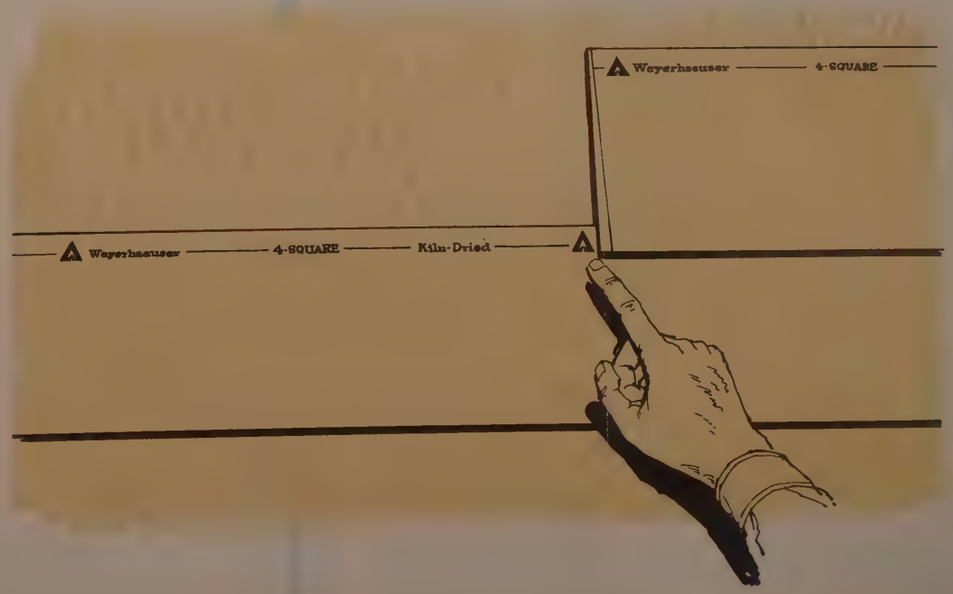
that appraisers, inspectors and realtors will quickly recognize throughout your homes as built-in added value for prospective home buyers.

BEVEL SIDING LAP-MARKED

for fast, precision application and positive visual

PROOF OF QUALITY

The bottom edge of the Weyerhaeuser trade-mark is positioned 1″ below lap edge of the siding—thus providing a perfect guide for fast, cost-saving application and conformity to FHA lapping standards.



PROOF OF QUALITY



that develops pride of ownership for the buyer and serves as a constant reminder that his home was built with finest quality materials.

EDGE-MARKED
2" KILN-DRIED
common dimension

marking on one edge of ... assures permanent Weyerhaeuser ... identification and proof of Kiln-Dried ...



and
LAP-MARKED
bevel siding



FRAMING LUMBER

Kiln-Dried framing lumber is your best protection against expensive, time consuming call backs. It is stronger, stiffer, harder, more durable and lasting than non-seasoned lumber. K-D lumber has increased nail-holding power and stability. The use of Kiln-Dried materials means easier, faster and more economical construction in the long run. Every piece of Weyerhaeuser 4-SQUARE Kiln-Dried is permanently edge-marked for "*proof of quality*" that all can see.



BEVEL SIDING

Wood bevel siding has no substitute when it comes to natural beauty, durability and economy. The advantages of Weyerhaeuser K-D siding to you and your home buyers are many . . . it remains straight and true; has increased nail-holding ability; is more easily worked; takes and holds paints, stains and other finishes better and longer than non-seasoned sidings. The convenient lap-mark on top edge of all Weyerhaeuser bevel siding serves as an automatic guide in helping you accurately position and apply the material.

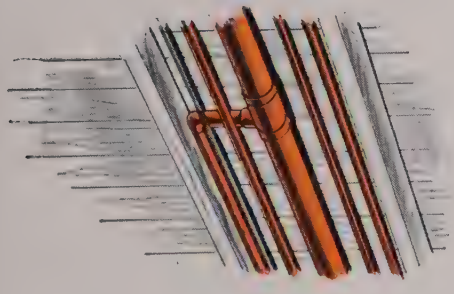
From start to finish . . . Weyerhaeuser Kiln-Dried quality saves you time, money and trouble

Available through Weyerhaeuser dealers everywhere

Weyerhaeuser . . . works wonders with wood

WHY . . .

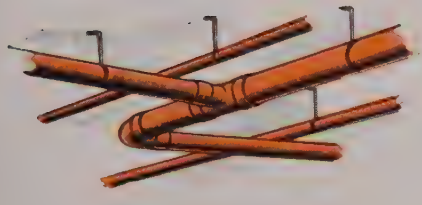
Remodel with Copper tube???



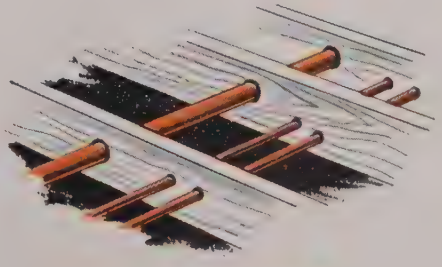
BECAUSE
it can be quickly installed between original floor joists



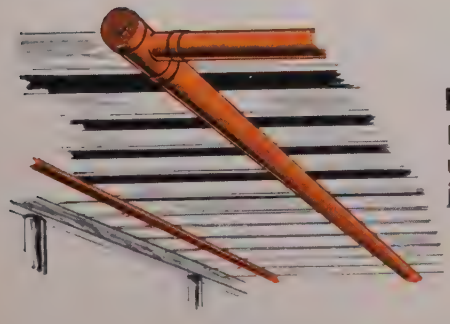
BECAUSE
risers can be installed in original stud spaces



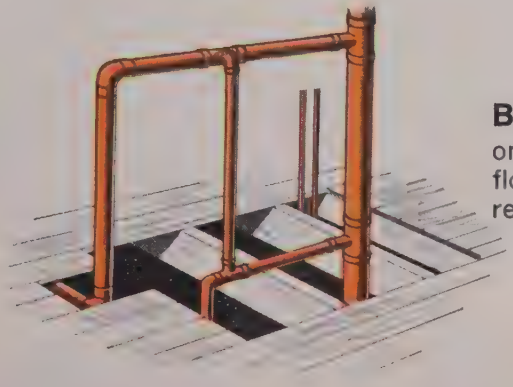
BECAUSE
its light weight makes overhead work easier and faster



BECAUSE
it can be fitted through small holes in old joists



BECAUSE
long lengths can be used with fewer joint connections

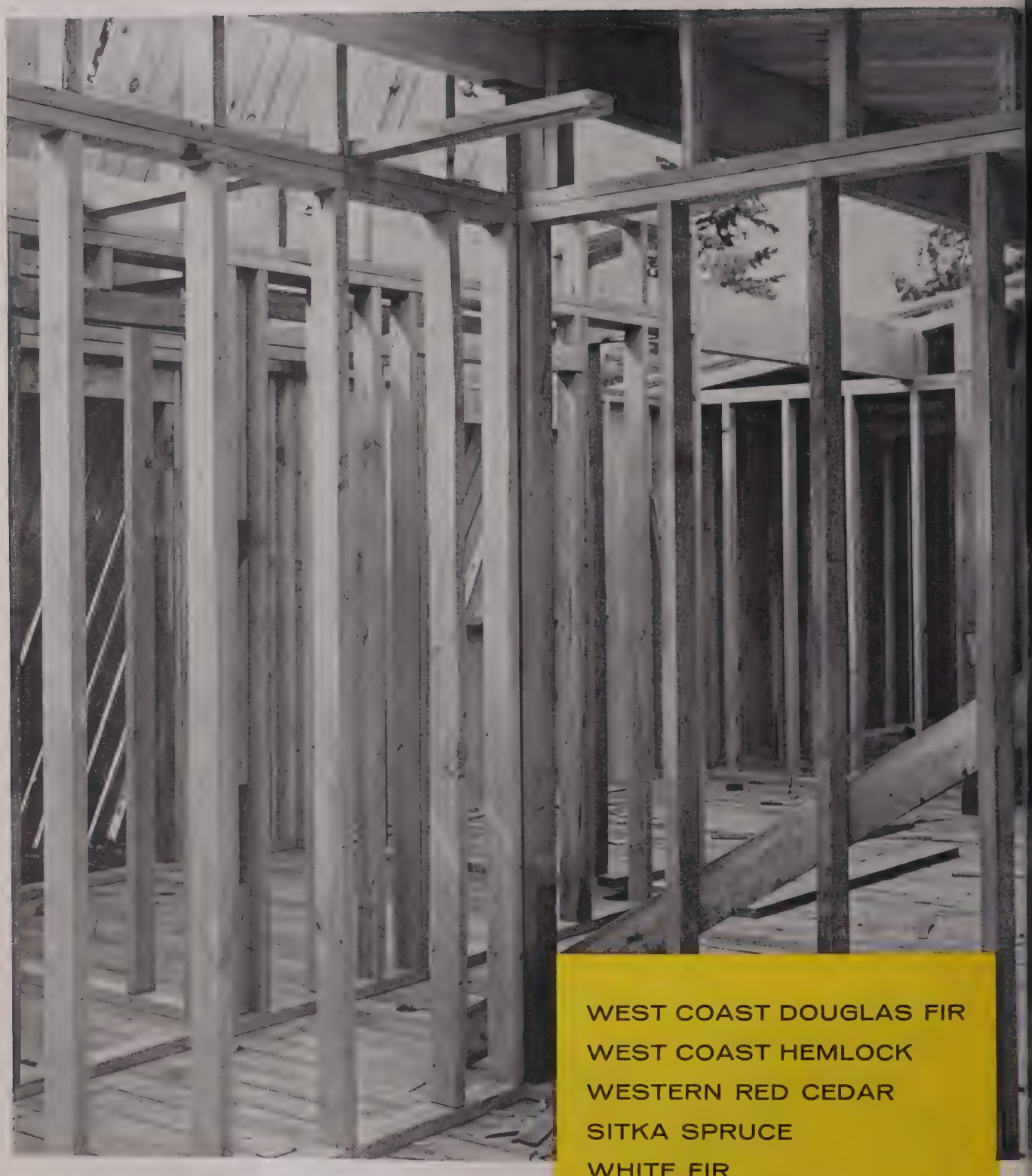


BECAUSE
only small areas of flooring need be removed to install it

Anaconda Copper Tube is available in all standard wall thicknesses—Types K, L, M and DWV—through your plumbing wholesaler. See him also for Anaconda wrought and cast solder-joint fittings. For complete information, write Anaconda American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario.

61-1026

ANACONDA
AMERICAN BRASS COMPANY

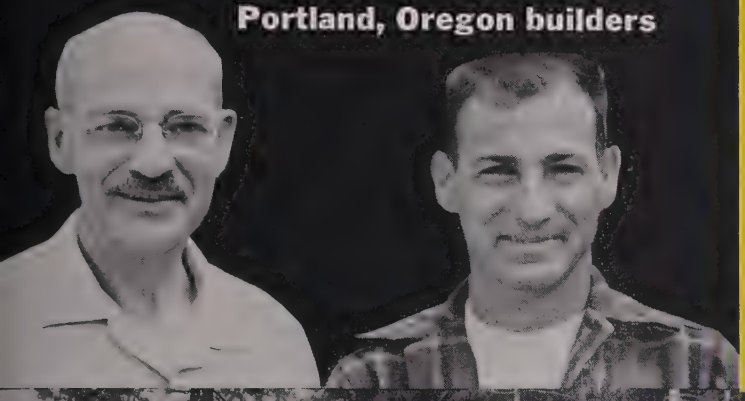


WEST COAST DOUGLAS FIR
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SITKA SPRUCE
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WEST COAST LUMBER

"We're in our second generation of profitable experience with UTILITY GRADE WEST COAST LUMBER"

say E. L. Mallory and Thomas E. Mallory Portland, Oregon builders

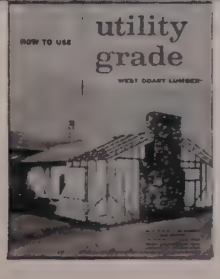


"I started building 20 years ago with No. 3, now called Utility grade West Coast Lumber. I have now turned the buying over to my son, Tom, and it didn't take him very long to learn that Utility grade dimension lumber saves us at least $250.00 on each house. We build in the $10,000 to $30,000 price range and have built homes from California to Alaska. Utility grade helps maintain our reputation for quality and permits us to price our homes competitively," the senior Mallory concludes.

Utility grade is used for all types of framing—joists, studs, plates, rafters and bracing*. Decking of this grade is also a money-maker when used for sub flooring on beams or for roofs*. Ask your retail lumber dealer about Utility grade West Coast Lumber . . . he's your local source of supply.

* When used in accordance with FHA Minimum Property Standards for One and Two Living Units, FHA Bulletin No. 300.





FREE TECHNICAL FACTS about Utility Grade. Contains span tables.

Write for your FREE copy today . . . Room 104

WEST COAST LUMBERMEN'S ASSOCIATION

1410 S. W. Morrison Street • Portland 5, Oregon



New lockset made with Du Pont ZYTEL® NYLON RESINS simplifies and speeds installation

Lockwood Hardware's radically different lockset now simplifies and speeds the tricky job of installation on household doors. Works like this: the chassis units, molded of tough Du Pont ZYTEL nylon resins, slide smoothly together—round post into round sleeve, square post into square sleeve—and the self-aligning latch case swivels to the right or left of the central lock assembly to compensate for bevel-edged doors or for improper boring.

Remarkably simple to install, the lockset parts of low-friction ZYTEL provide a lifetime of smooth, quiet operation without lubrication. There's no rust...no corrosion...and the bolts have been tested up to 1,500,000 cycles before showing any perceptible wear.

The Lockwood Hardware Manufacturing Company, of Fitchburg, Massachusetts, offers these locksets in two basic types—a latching unit and a unit with a convenient push-button locking feature. Latch bolts are molded in metallic colors to complement the lockset trim.

As a builder of reputation, you will benefit by looking for the better-made labor-saving building hardware made with ZYTEL. Lockwood and other manufacturers of all types of quality hardware will be glad to answer your questions.

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☐ Please send me more information on ZYTEL.

☐ Please send me more information on Lockwood Lockset.

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In Canada: Du Pont of Canada Limited, P.O. Box 660, Montreal, Que.



now . . . PALCO-LOC . . . tailor-made lumber in custom lengths to fit builder requirements, exactly.

Our finest Architectural Quality, certified kiln-dried redwood — finger-jointed and electronically glued to produce permanently strong, long pieces — for exterior or interior use. All specified, or any combination of lengths, at no extra cost! Available in boards or worked patterns . . . also factory paint-primed if desired. Buy PALCO — standard of comparison since 1869.

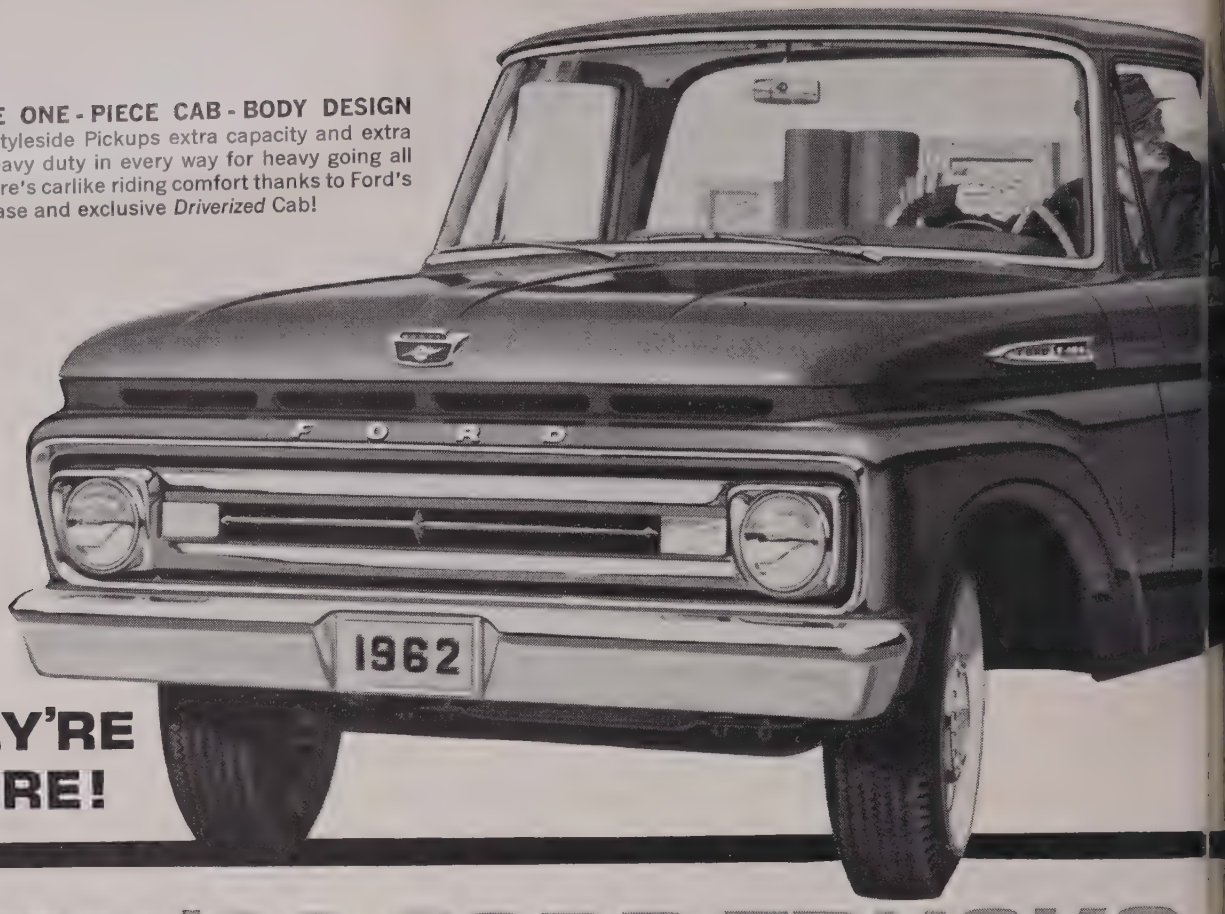


THE PACIFIC LUMBER COMPANY

100 Bush Street, San Francisco 4, California
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CRA PROFIT WITH PALCO.

EXCLUSIVE ONE-PIECE CAB-BODY DESIGN gives Ford Styleside Pickups extra capacity and extra strength. Heavy duty in every way for heavy going all day! And there's carlike riding comfort thanks to Ford's long wheelbase and exclusive *Driverized* Cab!



THEY'RE HERE!

NEW '62 FORD TRUCKS

Get full-time economy that only starts with Ford's low price!

Meet the trucks that make saving money a full-time business—new Ford Trucks for '62!

In a selection of over 600 models there's a truck that's right for your job, whatever your job . . . trucks that you can buy and operate at lower cost . . . trucks that can save you money mile after mile, load after load, year after year!

They save on price. They save on gas and oil. They save on tires and on maintenance—wherever there's a way to save! The full record of Ford economy, covering three years of independent tests, is detailed in Ford's Certified Economy Reports. See your Ford Dealer now. Check out the facts, work out a deal, and drive out a truck that saves money . . . full time!

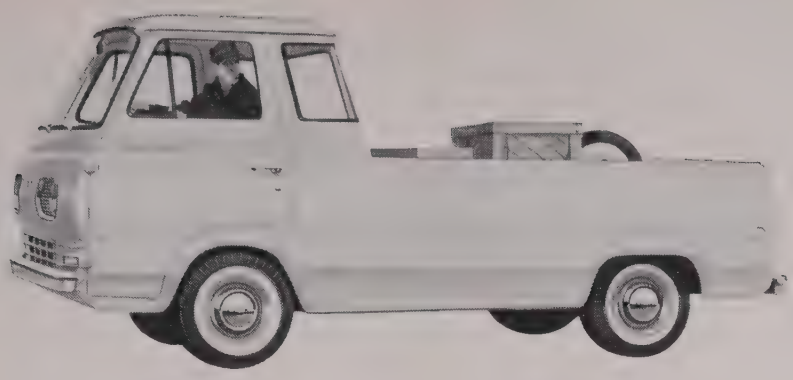
FORD TRUCKS COST LESS

SAVE NOW . . . SAVE FROM NOW ON!

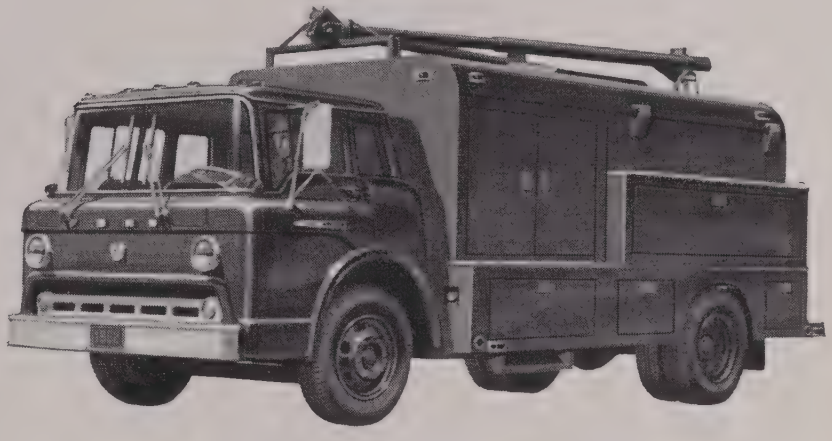


ECONOMICAL HEAVY DUTY V-8's with 292-, 302- and 332-cu. in. displacement give you tailored-to-the-job economy at much lower prices than you would expect in trucks with engines of this size. Stress-relieved cylinder heads, aluminum alloy pistons and sodium-cooled exhaust valves are but a few of the heavy-duty features you get with these engines.



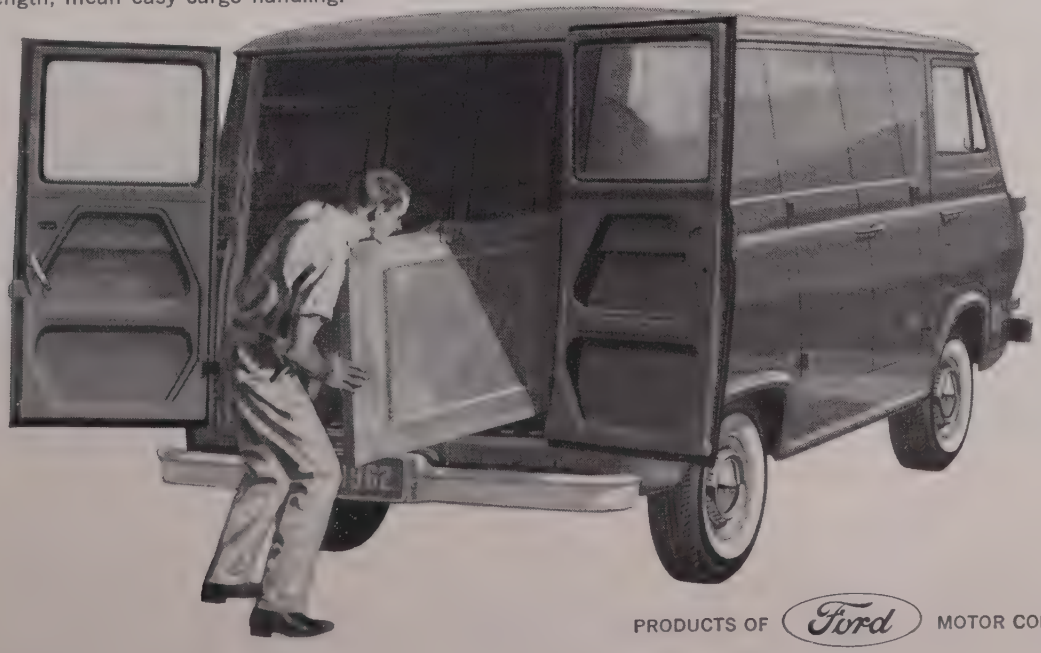


ECONOLINE — ALL-ROUND ECONOMY LEADER — and low price is only the start! Certified tests show this pickup may save $100 on gas, oil, tires and license over your present conventional pickup every 16,000 miles you drive.



AMERICA'S MOST POPULAR VAN — and small wonder! Econoline savings start with a price far under any popular ½-ton conventional panel on the market! And they continue saving every day—certified tests have shown that in 16,000 miles, savings in operating costs compared to the conventional panel you may now own could top $100! Big 4-ft. doors rear and curbside plus 204 cu. ft. of loadspace, and a floor that's flat the full length, mean easy cargo handling.

PROVEN 262-CU. IN. BIG SIX FOR FORD MEDIUMS includes more heavy-duty engine features than any other Six of its size. Never before such long-term durability, reliability, and economy at so low a price.



PRODUCTS OF Ford MOTOR COMPANY

The most modern advancement in bathrooms since plumbing!



Puritron—electronic miracle keeps bathrooms completely free of odors.

Makes any house easier to sell... any apartment easier to rent.

Needs no outside vents or exhaust fans.

Simply recess into wall for direct wiring. Switch on.

Ventilates each bathroom completely for less than $25.

For full information, write Puritron Corporation, 15 Stiles Street, New Haven, Conn.

PURITRON—THE ELECTRONIC MIRACLE (UL)



THIS IS THE SHEATHING THAT INSULATES

That's the difference between one sheathing material and another. Insulation board is the one that insulates. In fact, insulation board sheathing meets F.H.A. minimum requirements without supplementary wall insulation.

Now the Insulation Board Institute has established a precise rating system (see chart). Soon these ratings will be stamped on every sheet manufactured by our fourteen member firms. Watch for the "IBI Rated" seal.

Got time for three fast facts? (1) Insulation board sheathing is strong—up to five times as strong as horizontal lumber sheathing! (2) Insulation board requires 50% less labor than lumber sheathing—and involves at least 10% less waste. (3) Insulation board weighs less than half as much as gypsum sheathing.

HEAT RESISTANCE RATINGS (R)	
IBI RATED INSULATION BOARD SHEATHING (25/32 IN.)	R 2.06
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LUMBER (NOM. 1 IN.)	R 0.98
GYPSUM (1/2 IN.)	R 0.45
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Write for the new booklet, "How to Save with Sheathing."

IBI INSULATION BOARD INSTITUTE

111 West Washington St., Chicago 2, Illinois



GET ON THE BAND WAGON

Get on the fastest-rolling band wagon in homebuilding—central air-conditioning. Why? To sell more houses. Proof?

- *Number of centrally air-conditioned homes in the U.S. in 1957: 500,000. In 1960: More than a million. Number of homes centrally air-conditioned in 1961 alone: 250,000.*
- *In 1960, housing starts fell off 19%; central air conditioner shipments rose 12%. In first six months of 1961, housing starts fell 2% from 1960; during same period, central air conditioner shipments rose another 8%.*

Sell central air-conditioning and sell more houses. When you do, protect yourself from the "operators" who are out to make a buck without regard to the performance of the installations they sell. How?

Specify only equipment certified under the A.R.I. Program. Backed by the combined reputations of the 59 manufacturers listed on this page, the ARI Seal of Certification assures you and your home buyers of equipment rated to uniform high standards of safety and performance.

To get what you buy—and to deliver what your customer needs—specify ARI Certification. For free explanatory booklet and a directory of certified equipment, write Dept. R-1012.

AIR-CONDITIONING AND REFRIGERATION INSTITUTE

1346 Connecticut Avenue, N.W., Washington, D.C.

Manufacturers participating in this program as of September 1, 1961: • A. & B. Sales • Air Conditioning, Incorporated • Airtemp Division, Chrysler Corporation • Albion Division, McGraw-Edison Company • Amana Refrigeration, Inc. • American Furnace Company • American-Standard Air Conditioning Division, American Radiator and Standard Sanitary Corporation • American-Standard Industrial Division, American Radiator and Standard Sanitary Corporation • Arkla Air Conditioning Corporation • Armstrong Furnace Company • Bryant Manufacturing Company • Carrier Air Conditioning Company • Cleveland Steel Products Corporation, Toledheet Division • Cobell Industries Incorporated • Columbia Specialty Company, Inc. • Coleman Company, Inc., The • Crane Co. • Curtis Manufacturing Company • Day & Night Manufacturing Company • Fraser & Johnston Company • Friedrich Refrigerators Incorporated • Gaffers & Sattler • General Electric Company • Goettl Bros. Metal Products Inc. • Henry Furnace Company, The • Holly-General Company, Division of the Siegler Corporation • International Heater Company • International Metal Products Division, McGraw-Edison Company • Janitrol Heating and Air Conditioning, A Division of Midland-Ross Corporation • Johnson Furnace Company, The • Lennox Industries Incorporated • Lincoln Air Control Products, Inc. • Majestic Company, Inc., The • Mission Appliance Corporation • Mueller Climatrol, Division of Worthington Corporation • National Lennator Corporation • Olsen Manufacturing Company, C. A. • Payne Company, The • Peerless Corporation • Perfection Division, Hupp Corporation • Pioneer Industries, Division of Allied Thermal Co., Inc. • Republic Air Conditioning Co., Division of Republic-Transcon Industries, Inc. (Formerly Mathes Company, The) • Rheem Manufacturing Company • Round Oak Division of Peerless Corporation • Southwest Manufacturing Company • Stewart-Warner Corporation • Texas Products Manufacturing Company • Therm-Air Manufacturing Company • Thermo-Electronics, Inc. • Trane Company, The • Typhoon Air Conditioning Division, Hupp Corporation • United States Air Conditioning Corporation • Weibilt Air Conditioning and Heating Corp., Subsidiary of Weibilt Corporation • Westinghouse Electric Corporation • Williams Oil-O-Matic Heating Company, Division of National Union Electric Corporation • Worthington Corporation • Wright-Temp Manufacturing Company, Inc., Division of Wright Manufacturing Company • York Corporation, Subsidiary of Borg-Warner Corporation • Zink, John, Company.

Your kitchens will be fully equipped ...with Robertshaw-controlled gas built-ins



...and the fully-equipped kitchen helps sell the new house.

The most important room in the house, to *Mrs. New-Home-Buyer*, is the kitchen. Demand Robertshaw gas range and oven controls on your new built-ins . . . and use their superior features as selling points for your kitchens.

All these superior Robertshaw FLAME SET and FLAME MASTER control features are added selling points for your new homes. Insist on FLAME SET and FLAME MASTER controls for your new built-ins.

For the names of manufacturers using Robertshaw controls as standard equipment, write Robertshaw Thermostat Division, Robertshaw-Fulton Controls Company, Youngwood, Pennsylvania.

For real fast service, use DIRECT DISTANCE DIALING. Dial 412-242-7171.

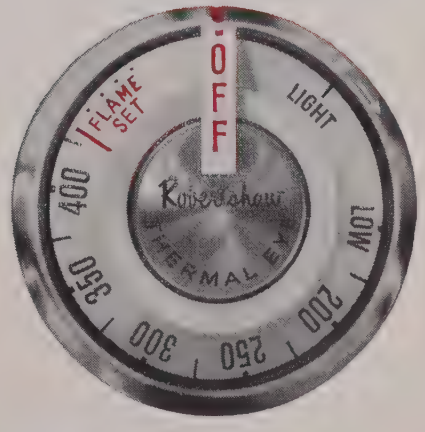
VMA 7980

Robertshaw FLAME MASTER®

- full cooking and baking control, plus low temperatures down to 140°
- thaw frozen food in a jiffy
- warm plates at low temperatures that "pamper" fine china
- keep roasts for hours . . . just right
- keep complete meals at serving temperatures for hours, without overcooking . . . with leisure time to shower, dress, relax or entertain

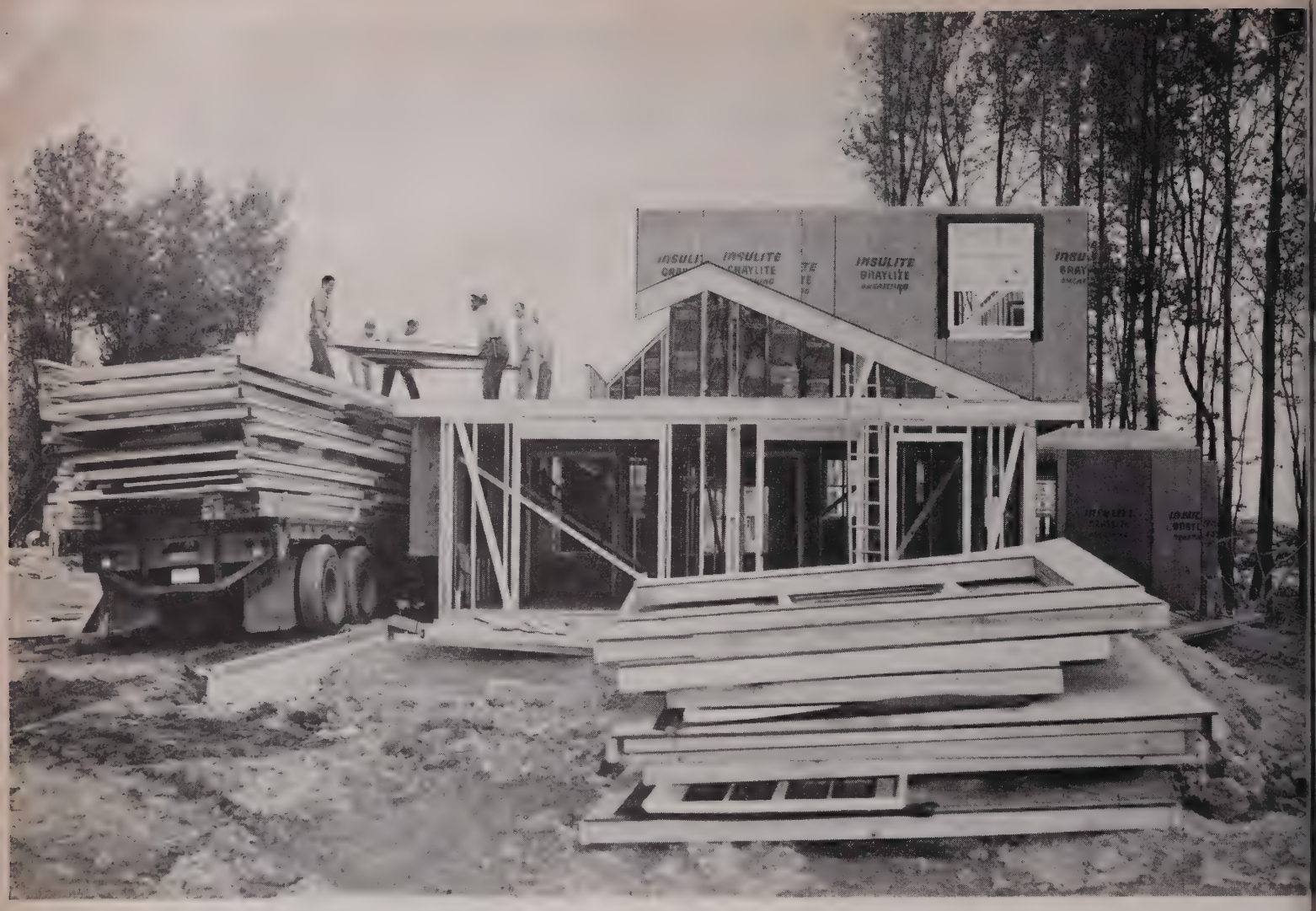
The name that MEANS temperature control

Robertshaw MR CONTROLS



Robertshaw FLAME SET®

- no more burned pans
- no more scorched food
- small flame for small pans
- BIG flame for BIG pans
- simplest to operate
- no instructions needed



PRESIDENTIAL HOMES of Pemberton, N. J. manufactures the components for these Dover, Delaware homes by Walter J. Ellis. Shown here, shell components being delivered to the site. Mr. Ellis particularly likes the way Insulite Sheathing strengthens the panels—also provides ideal backing for any siding (brick is used for floor level).

"Panels with Insulite Sheathing... a finish of Insulite Siding

HERE IS QUALITY I CAN SELL!"

SAYS WALTER J. ELLIS, Builder, Dover, Delaware: "Insulite Sheathing provides the extra strength and insulation. Insulite Primed Siding gives the attractive appearance that sells buyers—and the durability that keeps them sold."

Mr. Ellis is one of the leading builders in Dover, Delaware. His current project is Woodbrook, an attractive development of homes in the $21 to $29 thousand bracket. He is presently building at the rate of 75 homes a year.

USES PREFABRICATED PANELS

Mr. Ellis says, "I'm all for panelized construction—if you start with good components and put them up right. I use panels made by Presidential Homes—and they're delivered right to the site—on time. Presidential fabricates the panels with rugged Insulite Sheathing—which I believe to be an outstanding product."

SIDING IS INSULITE, TOO

Over the insulated shell, Mr. Ellis applies Insulite Primed Siding—the man-made siding that handles and works like wood, and goes up fast and easy. Because Insulite Primed Siding has no structural grain, it has no knots or split ends—will not warp or splinter. Insulite Primed Siding is *completely* primed at the factory. It takes finish coats easily, is highly resistant to paint blistering.

NOW—A COMPLETE RANGE OF SIZES

As a lap siding, Insulite Primed Siding is available in 16′ lengths—8″, 10″ or 12″ wide. It also comes in plain panels for board and batten construction—and in vertical grooved panels with grooves ½″ wide and 8″ on centers. Panel sizes are 4′ x 8′, 4′ x 9′ and 4′ x 10′.

build better with

INSULITE®

Building Products

Insulite Division of Minnesota and Ontario Paper Company, Minneapolis 2, Minnesota



2 **INSULITE SIDING GOES ON.** A quick, easy job with Insulite Primed Siding say Mr. Ellis (holding board), and partner, Frank Gentile, Jr. No splits, knots or waste with this siding.

3 **READY FOR OCCUPANCY.** Here is the completed Ellis home. Notice how rich, warm look is made even more inviting by deep shadow lines cast by the Insulite Siding. Here is a home built to satisfy!

For Open Wall Shelving. No. 80 Standard (18" to 144" lengths, 1" adjustment). No. 180 Brackets (4" to 20" lengths). Satin anochrome, brass or ebony black finish.

Shelf-Magic!

For Built-in Shelving. No. 255 Standard (24" to 144" lengths, ½" adjustment). No. 256 Support (¾" long, 5/16" wide). Nickel, zinc or bronze finish.



K-V SHELF HARDWARE

easily installed, easily adjusted, lasts a lifetime!

The modern, convenient way to add needed shelving or desirable decorative effects. Handsome and sturdy, remarkably low-cost. Easy to install and adjust, lasts the lifetime of the house. Always keeps shelves straight, strong, sag-free. Available in a range of sizes to meet most specifications. Ask your K-V sales representative about K-V hardware and fixtures — or send for our catalog.

KNAPE & VOGT MANUFACTURING CO.
Grand Rapids, Michigan

KV HARDWARE

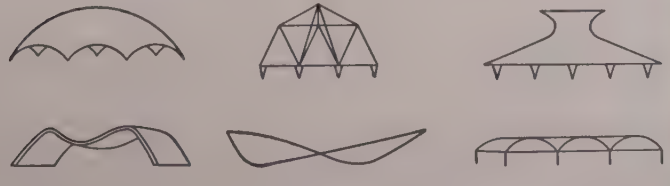
Manufacturers of a complete line of quality drawer slides, sliding and folding door hardware, closet and kitchen fixtures and Handy Hooks for perforated board.



FLINTKOTE monoform* SYSTEM®

gives you a free hand in roof design

Whatever your concept of shelter surface...from flat...to curve ...to the most advanced geometric design...Flintkote Monoform can do! Here is the most versatile method of roof application ever developed. The Sealzit gun shown above applies special Monoform compounds simultaneously with chopped reinforcing glass fibres, forming a monolithic protective membrane that is resilient, tough, highly weather resistant. Whatever structure you may now have in the design stage, it should have a Monoform roof—and be sure to let the Flintkote Monoform system help free your hand in future roof designs!



The Sealzit gun is manufactured under the following U.S. Patents: 2,787,314; 2,933,125 and 2,813,751. Other U.S. patents pending. Patented in Canada. World-wide patents pending.

*A TRADE MARK OF THE FLINTKOTE COMPANY †U.S. PATENT APPLIED FOR

THE FLINTKOTE COMPANY
30 ROCKEFELLER PLAZA, NEW YORK 20, N.Y.
or BOX 2218 TERMINAL ANNEX, LOS ANGELES 54, CALIF.
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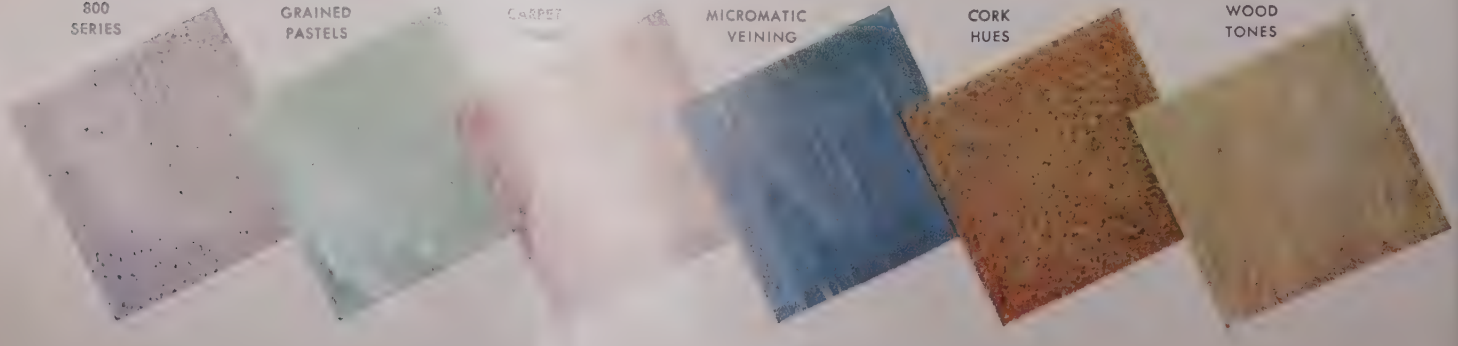
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Roundup:

FHA decides not to boost its interest ceiling

Commissioner Neal Hardy's negative announcement Sept 19 is almost unprecedented. But reports that FHA was about to boost the maximum interest on Sec 203b loans from 5¼ to 5½% were circulating so widely that some kind of action was in order lest lenders shy away from loan commitments in the hope of higher yields later *(see p 54)*. Now, you can expect FHA to stand pat on its 5¼% ceiling at least until mid-November, Washington-wise analysts figure.

Why all the speculation about rate increase? After the Kennedy Administration sliced the FHA interest lid from 5¾ to 5½% in February, discounts in the secondary mortgage market rebounded to their pre-February level in less than four months as the price of money declined generally. But since the FHA rate was cut a second time in late May, to its present 5¼%, FHA discounts have remained just about where they were. Hardy dutifully insists that this stability (which started all the talk) provides "good indications" the mortgage market will accept a 5¼% rate.

Almost everybody else seems to disagree. VA Administrator J. S. Gleason Jr has just written the House ways & means committee: ". . . There are many signs that the economy is again headed for a period of capital strain with the possibility that a new cycle of rising interest rates is beginning." Economist Leon T. Kendall of the US Savings & Loan League predicts flatly: "Mortgage rates are going to go up. Time is running out, or has just about run out, for home owners seeking to hit the bottom in mortgage interest rates for this turn of the business cycle."

Carpets on the mortgage win FHA approval—for rentals

The housing industry's years of effort to persuade FHA to let carpeting be included in mortgages are finally beginning to produce results. The agency has decided (but not yet announced when these lines were written) to make carpeting and draperies eligible for inclusion in FHA mortgages in individual apartments in all its multifamily housing programs. Up to now, carpeting has been financable under mortgages only in apartment public spaces (corridors, foyers, etc.). Carpeting remains ineligible for mortgage financing in FHA's one- to four-family housing programs, thanks largely to pressure on Congress from retailers who want to keep this profitable business. But two of NAHB's most active committees have just come out with strong recommendations to FHA to change their underwriting rules. And Research Institute trustees have agreed to encourage a producer of long-life carpeting to develop it as a permanent floor covering.

Are reckless salesmen selling people the wrong houses?

Yes, contends *American Home*, a leading consumer housing magazine (circulation: 3.7 million). In an article this month, the magazine says: "Many factors put people into houses where they do not belong. Not the least of these is reckless salesmanship, aimed to make any dwelling seem the best house possible for any family." In today's competitive housing market, say the magazine, "every trick of the selling trade is being brought to bear, for many builders have some bad guesses on their hands." Such accusations will stir talk in housing circles. But the prevailing fact still seems to be that salesmanship is one of housing's weakest phases.

WASHINGTON INSIDE: HHFAdministrator Weaver has refused an invitation to address the annual convention of the Natl Association of Real Estate Boards next month in Miami Beach. Such a snub of housing's largest trade group is unprecendented, say veteran Washington housing men. Apparently under pressure from Weaver, FHA Commissioner Hardy and URA Commissioner Slayton have also declined to talk. Insiders say Weaver's reason is that realtors have been spearheading opposition to raising HHFA to cabinet rank (which they oppose, incidentally, not because Weaver is a Negro but because they don't want more government in housing). Weaver *did* speak at the recent Boston convention of the Natl Association of Real Estate Brokers, the Negro realty group. He used the occasion to accuse big NAREB of race bias: "It is unfortunate that the Natl Association of Real Estate Boards chooses to speak for only one segment of that business." The facts: the 70,000-member realtor NAREB has a predominantly white membership, but each local board sets its own policy. Past President Charles L. Warden of the 800-member Negro NAREB was once a member of the Brooklyn real estate board. He says he withdrew because he never got any committee assignments.

MARKET MURMURS: "If I were to invest heavily in real estate during the next five years, I would invest in Florida, California, and Arizona," counsels Realty Analyst James C. Downs Jr. "California next to Florida will feel the benefits of migration of people who will not become part of the labor force." As a result, Downs figures, the housing market will not be so closely tied to new jobs as it is elsewhere in the US . . . US Plywood is getting its feet wet in housing construction. The company is putting up an apartment at the Chinn Ho-Lou Perini development just north of San Francisco. Fascinating wrinkle: instead of getting a conventional construction loan (at perhaps 6%), the corporation used its general credit to get a business loan cheaper. Experts close to the job say the savings were substantial.

Tip for future hurricane areas: Fanny May is ready to back up loans for replacement housing in Texas and other sections hit by Hurricane Carla. Fanny May has $9 million for special support for loans made on such housing. It will buy 5¼% mortgages at 99, higher interest loans at par. FHA will insure a 100% loan up to $12,000 under Sec 203h to repair or replace disaster-damaged homes.

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Will the coming super-boom lift housing to 1.5 million starts?

Only a few months back, such a proposition would have sounded far-fetched. Housing was wallowing along at a 1.1 to 1.25 million-a-year pace. It was not, for the first time in the postwar years, responding to the stimulus of cheaper mortgage money (and shrinking FHA and VA discounts). And word had got around that since the nation was amidst a temporary dip in the 25-34 age group—suburban housing's prime customers—it would be the mid-Sixties before housing regained high gear.

But suddenly things are starting to look better. Sales of new homes are picking up faster than many housing prophets forecast. Sales of second-hand homes have bounced back far enough to halt the slump in prices that began about a year and a half ago.

Builders are planning to put up 1.5 million units next year, according to FORTUNE's semi-annual survey of builders' intentions.

Plans, of course, can go awry. But HOUSE & HOME's sister magazine calls this upsurge "attainable in a booming economy such as FORTUNE, and now everyone else, is expecting in 1962." The big *if*, as the magazine sees it, is how much rental construction will continue to grow. The US should get between 270,000 and 275,000 new apartment units this year—a quarter of the total. That is 30% more than last year and 20% above the 1959 peak. Apartment construction has more than tripled in the past five years in the face of a stable or declining market for one and two-family homes. Says FORTUNE: "Builders are expecting only a 15 per cent rise next year. Some slowdown is inevitable, for apartment vacancies are rising . . ."

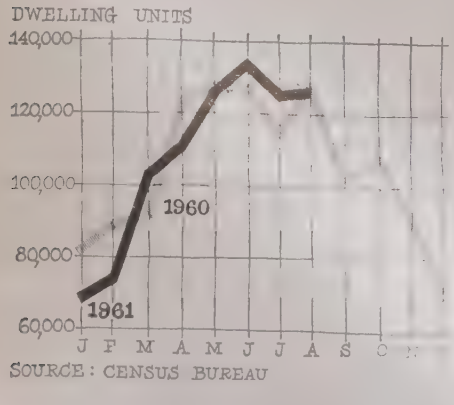
Rental vacancies inched up to 8.1% in the spring quarter of this year, according to the latest Census figures. Census calls this "the same" as the 8.0% vacancy rate in the first quarter. But it's still a notable jump from the 7.6% vacancy rate in the last half of 1960 (and 6.0% in 1958).

You have to look beneath the overall statistics to gauge the probable impact of vacancies on new rental building. For one thing, 29% of vacant rental units lack some or all plumbing facilities. And most of these were 1) small, 2) cheap (under $50 a month), and 3) "had been vacant longer than rental vacancies with all facilities." The message is clear: people won't rent quarters too cheap to be good.

You can see more and more groping for ways to tap the market for very low-priced new homes—the market shell-house builders have been exploiting.

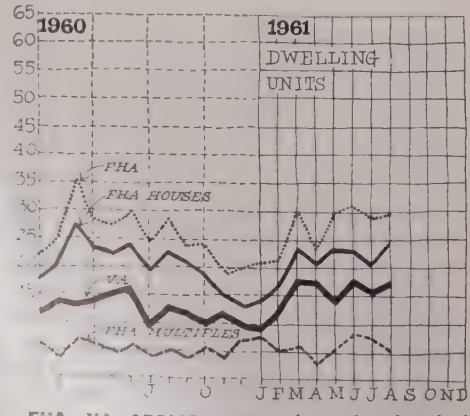
Housing's hottest market is "a new kind of high-value, low-priced home," contends Economist Nat Rogg of NAHB. "Perhaps the answer is to develop the idea of work equity." Rogg figures between 120,000 and 140,000 shell homes will be built this year (a new high estimate in an area where there are no authentic statistics). "Somewhere along the line the conventional housing industry is missing the boat," he says.

FHA is trying to help by revising its minimum property standards for Sec 203i homes, the bargain-basement program for loans up to $9,000 for which FHA already lets builders cut down on space and amenities.



HOUSING STARTS — for nonfarm units — are trending down again. The seasonally adjusted annual rate for private nonfarm starts fell 2% from July to August (from 1,313,000 to 1,291,000). And the July rate was 3% below the June rate of 1,352,000.

The downturn in the annual rate comes despite a tiny increase in actual starts amid building's busiest season. Private nonfarm starts reached 123,200 in August (vs 122,300 in July). August public starts: 3,100. Total farm and nonfarm starts for August: 129,200.



FHA, VA APPLICATIONS show that housing's recovery—for the first time in the postwar period—has not started with the US-backed part of the market. FHA applications (at 217,805) are only 0.7% above their 1960 level for the first eight months of this year. VA appraisal requests are up 20%, but that is a statistically insignificant 20,000 units (total: 121,438).

August saw 29,895 FHA applications (24,400 for homes, 5,495 for projects)—a 3.6% gain from July. VA requests were up 15% from July to 17,375.

MARKET BRIEFS

Statistics: a new view

Census' building permit statistics now loom as a better index of trends in housing volume than the traditional yardstick, starts.

Ever since Census took over the starts count from the Bureau of Labor Statistics and switched to a new method of projecting the totals (NEWS, July '60), starts figures (even when seasonaly adjusted to an annual rate) have shown a baffling tendency to bounce up and down from month to month. This volatility makes it hard to read trends.

The bureau's statistics on building permits, on the other hand, are adjusted to take account of variations in the number of working days each month, as well as seasonal variations. They show much more consistent trends. Currently, they show an increase in housing every month since last December, which was the low mark for the past 17 months. Comparative figures:

PRIVATE HOUSING UNITS
Seasonally adjusted annual rate (in thousands)

Month	*Starts*	*Permits*
April '60	1,293	1,036
May '60	1,331	1,044
June '60	1,279	964
July '60	1,227	997
Aug '60	1,355	951
Sept '60	1,089	952
Oct '60	1,273	979
Nov '60	1,220	995
Dec '60	996	949
Jan '61	1,127	966
Feb '61	1,169	967
Mar '61	1,296	998
Apr '61	1,166	1,000
May '61	1,291	1,005
June '61	1,383	1,055
July '61	1,338	1,087
Aug '61	1,317	1,104

Some 85% of new housing goes up in permit-issuing localities, says Census.

Moving in on shells

Prefabbers are scurrying to try to grab part of the market among the $3,000- to $5,000-a-year group—the market already invaded by shell house companies and about to be invaded by FHA's new heavily subsidized middle income rental program (*see p 50*).

Inland Homes and the Knox Homes division of National Homes have come out with new models. Crawford is selling shell homes through franchised dealers in 20 cities. Builder Quincy Lee of San Antonio has also gone into the market with a product price from $2,700 to $8,200—depending on how unfinished the unit is.

As Economist Robinson Newcomb pointed out at a recent NAHB meeting, a man who can afford a shell house for $2,500 or $3,000 (with the typical 12%, six-year loan) could afford an $8,000 house if the terms are cut to only 8% and 15 years. Some S&Ls are beginning to make shell house loans.

Innocent buyer laws spread

A new law requires sellers of property in Pittsburgh and Philadelphia to warn buyers of any building or fire code violations of the property being sold.

Before a sale, the seller must obtain a certificate listing any violations or saying there are none. Sales can be voided for failure to comply. Backers of the law say it will force property owners to clean up fire and building code violations.

The Pennsylvania law is modeled after a

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SEVEN FEDERAL AIDS TO BUILDING IN THE RETIREMENT MARKET

Program	Provisions	Eligible Borrowers	Maximum Terms [a]	Activity to July 31
FHA Sec 202	Direct federal loans for housing for elderly.	Private non-profit corporations; consumer cooperatives; public agencies except public housing	50 years at 3⅜%; 100% of development cost	$17 million committed; June & July applications at rate of $30 million monthly.
FHA Sec 203	Insures loans for 1-family homes	Persons over 62; third party may provide down payment and co-sign loan	35 years; 5¼%	About 4,000 homes during fiscal 1960-61.
FHA Sec 221	Insures loans for moderate income families	Occupant buyers; 3% down payment for homes under $15,000.	35 years new; 5¼%	No figures available
FHA Sec 221d3	Insures loans for rental units at below-market rates	Non-profit organizations; cooperatives; public agencies except public housing	40 years; 3⅜%; 100% of cost	None
		Limited dividend corporation (Return 6% of equity)	90% of cost	
Sec 231	Insures mortgages for rental housing designed for persons over 62	Non-profit corporation	No fixed term; 5¼%; 100% of cost	Applications: 168, 21,311 units, $223.4 million; insured: 80 projects, 9,211 units, $88 million
		Profit making corporation	90% of cost	
FHA Sec 232	Insures loans for new or rehabilitated nursing homes	Operators of licensed proprietary facilities	20 years; 5¼%; 90% of value	Commitments: 31 projects, 2,463 beds, $12.3 million; applications: 32, 2,995 beds, $15.6 million
FNMA special assistance	Purchases insured loans under Sec 203, 221 & Sec 231	Depends on program	Prices: par for Sec 231s, 99 for 5¼% 203b or i, 221s	$151.1 million reserved for loans.

[a] ½% insurance fee added on Secs 203, 221, 231, 232

Housing for the elderly: the new surprise boom

On a recent Sunday, the 300-car parking lot for Builder Ross Cortese's giant Leisure World near Los Angeles (H&H, Sept) was jammed all day—even though visitors knew Cortese wasn't open for business officially. Some came just to look; others came to offer salesmen under-the-counter cash to get high priority when co-op sales begin from a mailing list now grown to 10,000 names.

Many another sponsor of retirement housing is encountering the same astonishing demand. When House & Home asked its correspondents in major cities last month to find out what accounts for success or failure in this burgeoning field, only one flop was reported. It was a converted hotel near San Diego—so old it shouldn't have been converted in the first place.

The successes are coming so rapidly because housing for the elderly—which House & Home called "today's neglected market" only last February—is no longer neglected. Figures on the use of three federal programs to house the aged offer dramatic evidence of this.

All three were started in September 1959. But last June and July:

- Applications for FHA Sec 202 direct loans swelled to a $30-million-a-month rate, compared to only $5 million committed through the first 17 months of the program.
- FHA insured 4,855 units costing $43.1 million under Sec 231, thus doing in two months more than in the previous 20 months.
- FHA issued commitments for nursing homes with 1,705 beds, nearly two and a half times the preceding 20-month total.

The array of federal aids for housing old folks has now swelled to seven.

In addition to the Sec 202, 231, and 232 programs, the table above gives details of four other ways the government is trying to stimulate housing for the 400,000 new households headed by over-65 persons that are added to the US population each year.

Some of the programs are brand new, provided by the 1961 Housing Act (News, Aug). Some, like Sec 221 and Sec 221d3, are aimed at moderate income families, but experts say they will help senior citizens greatly because their incomes run lower than those of other groups.

The government also is pushing construction of public housing units designed for elderly persons. Over 116,000 persons over 62 now live in public housing units, making up 15% of all tenants. More than 2,200 new units have been built since 1956, 5,200 are underway, and 20,000 are in planning.

In fact, there are so many federal aids to help house the elderly that a special assistant, Sidney Spector, now works directly under HHFAdministrator Weaver as a kind of traffic cop to steer would-be sponsors to the program that fits their problem.

Is such variety necessary? Yes, says Weaver. "Aging is an individual matter of infinite variety. There is the widest conceivable difference in needs, capabilities, desires, and characteristics."

Private developers who set the pace are offering complete packages.

Cortese's Palm City offers apartment, maintenance, recreation, and all medical and drug care (at a medical center staffed by ten doctors) for $93 to $97 a month. Recreational variety even includes an 18-hole golf course.

In Arizona, Del Webb's Sun City (H&H, Feb) built its shopping center, motel, swimming pool, and community buildings before sales began. The first section of 1,350 homes and 250 co-op apartments sold quickly. Now, Webb is working on two more Sun Cities in Florida and California.

"These people are buying a package—a way of life, not just a dwelling unit," says a sales manager. "When senior citizens buy houses, they are very security conscious," agrees Assistant Dean James Gillies of UCLA's Graduate School of Business Administration.

"An essential element of housing for senior citizens is a multi-purpose senior center which can become a means of re-entry into community activity," advises Bob Weaver. "Senior centers should be a thoroughfare to the community for a retired person," he adds. Reason: recreation centers designed only for bingo, cards, or entertainment make oldsters feel unimportant and frustrated.

Church and non-profit groups are strong and use help from housing professionals.

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LUXURY TRAPPINGS on a retirement income are almost a necessity for successful senior citizens centers. This recreation center, therapeutic pool, and one of two swimming pools helped close 390 sales (12,995 to $15,500) in ten months at the Palm City, Calif. development of Marshall Secrest and Nels Severin. Plans call for 1,800 homes and co-op apartments.

Says UCLA's Gillies: "The non-profit sponsors are taking a very big back seat."

The biggest of the California's non-profit operators, controversial George McLain, spiritual heir of the Townsend people in California, has a one-time FHA chief construction examiner working for him. McLain is completing a 557-unit Senior Citizens' Village in Fresno, is working on another 557-units in Lancaster, and owns land for a larger project in San Diego.

In Philadelphia, President Joseph N. Gorson of the Fidelity Bond & Mortgage Co sparked building of 220-unit York House by the Home for the Jewish Aged. "The religious groups are using consulting service—at least they are hiring architects who know the problems in this field and these architects are coming up with some interesting new ideas and fresh approaches," says an expert in the California Dept of Social Welfare.

The religious projects, mainly because they have a built-in market, have scored some notable successes. Philadelphia's York House was occupied almost as soon as it was built late last year. Over 70% of the 350 units are reserved in the Methodist-sponsored Wesley Palms project near San Diego, although the project won't open until next spring. The Baptist-backed Roger Williams Plaza in Denver filled its 73 units after a July 1 opening and has a waiting list. And the plush Sequoias, sponsored by Presbyterians in Woodside, Calif., has sold all but 20 of 228 units since opening in June. Entrance fees range from $22,500 to $32,000, plus $185 a month.

LOCAL MARKETS:

Are 3,257 Miami homes abandoned?

Publication of that figure in a new series of monthly real estate reports has stirred disbelief among real estate men and mortgage bankers. Yet the report's backer, John Gibson Business Research Center, insists that it can produce maps and records of each home. A house is considered abandoned if it is "unoccupied, unkept, and whose owners have removed without making apparent provisions for resale or maintenance of the properties."

Reason for the skepticism: the report is being produced by the former staff of the University of Miami's Bureau of Business and Economic Research. The bureau, which the university dropped in an economy move, did a similar report for mortgage bankers, but this figure never appeared in any published data. No one has explained why.

But when the bureau was cut loose, its deputy director, John Gibson, started the monthly real estate survey as an independent business venture in May. The bureau's director, Dr Reinhold P. Wolff, nationally known for his housing market studies, is on leave from his economics professorship.

Research Specialist Uriel Manheim of Housing Securities Inc, New York City, one-time associate of Dr Wolff, rates the new report as "the best done in the field—the only monthly report of its scope in any major city." *Highlights from its other findings:*

There are five times as many used homes for sale as new houses sold all year.

Gibson reports 12,723 existing homes (both occupied and vacant) actively for sale at the end of July, compared to 2,639 new houses sold in seven months.

This offers major confirmation of the proposition that in most communities the need of families who cannot afford a good new home can best be met by buying an existing home.

Detailed checks by Gibson staffers in the North Dade County area revealed some bargains. A typical offering of homes, all less than five years old, showed:

Price New	Price Now
$13,500....	$12,500 and fully furnished
16,500....	14,000, $500 down, payments $105
17,000....	14,595, $200 down, payments $125
15,600....	14,975, rent $85 with option to buy at same payments

Staffers acting as buyers of one foreclosed new home were told. "Only $90 down on a conventional mortgage. Credit? We just run a one-day check. Anyone can qualify."

Miami has a nine-month's supply of unsold new houses.

At the end of June, Gibson warned that sales were falling behind completions. "While 12 new houses are sold every day, 16 new homes are built. Every day, four more unsold new homes are added to those already waiting for buyers." But July's sales spurted 59% to 541, exceeded the 497 completions. *"The building recession in Dade County has apparently reached bottom,"* says Gibson.





Federal court gives builders fresh legal tools to fight design piracy

Up to now, builders have generally been getting away with copying another builder's house that is selling well. It is not only common practice but also hard to prevent once a model is on display for crowds of buyers.

But two new decisions by federal district judges in Southern California* promise tougher times ahead for design pirates. For they apply the doctrine of indirect copying which, in effect, holds that a copyright of architectural plans is violated when drawings made from a completed structure are substantially close to the original drawings.

Builder Ross Cortese scored a sales-hit with his $19,300 Frematic Homes (*above, left*) at suburban Rossmore in 1959 (H&H, Mar '59). He accused Builders Phillip Kirst and John D. Roberts and Glendora Homes of copying the design to build five homes (*above, right*). He accused Tola Jack Bennington, Hal B. Smith, and Architect Jimmie N. Cartee of copying his model three times.

Both defendants admitted they visited Cortese's original home, marked by a sign warning the homes were copyrighted and "Any reproduction or photography will be prosecuted." Both denied they copied the designs but conceded they might have unintentionally used some of the ideas. But the two judges held that their homes "are similar in appearance to Rossmore Homes." Among the look-alike features in photos shown to the court: side-by-side fireplace and planter, similar layout, rooflines, fenestration.

Arthur S. Katz, copyright law specialist and one of Cortese's attorneys, notes that copyright protection by statute covers only plans and writings of an architect and not the completed building. Making another plan from information garnered in an inspection constitutes the infringement, he says.

"The legal question is whether these resemblances have naturally resulted from a general use of common sources and materials open to both architects or whether one architect used the work of the other as a model, copying from it rather than drawing from common sources," says Katz.

Designers can enjoy common law copyright protection, too, without copyrighting.

"Courts have held," Katz adds, "that simple construction of a house does not throw the plan into the public domain. So a builder doesn't lose common law protection just by building his house with a non-copyright plan."

Glendora Homes and Bennington-Smith have been ordered to surrender to Cortese all "drawings and all plates, negatives, and other material for making such copies." Each must also pay a "meaningful sum" to Cortese, who refused to reveal the amount.

"This case," says Katz, "proves that builders can stop others from copying their plans."

* Case No. 767-60-HW. Frematic Homes Inc vs Phillip Kirst, John D. Roberts, and Glendora Homes, Inc; Case No. 649-60-TV, Frematic vs Tola Jack Bennington, Hal B. Smith and Jimmie M. Cartee.

WHY MARKET COLLAPSED

HOUSE & HOME Correspondent Fred Sherman, who is real estate editor of the Miami *Herald*, gives this explanation of Miami's troubles:

The whole pie-in-the-sky system broke down all at once. The man who bought a $10,000 house in 1950 was able to sell it for $15,000 or $16,000 in 1955. Including his slow buildup of equity, he profited perhaps $7,000 and used it for a down payment on a $25,000 house.

But starting about two years ago, nobody would buy a tract house of 1950 vintage because it was possible to buy a new house on so much more favorable terms. So the remaining owners of early 1950 subdivision houses were virtually locked into their purchases.

Additionally, the recession has slowed migration to south Florida so much that Dade County, which had expected to reach 1 million population in 1959, now predicts this mark will not arrive until February 1962.

But it will still take nine months to use the 2,477 unsold homes. "Severe competition will continue with discounting and price cutting a common practice when models fail to sell," the report warns. "The saturation point on some types of homes is reached so quickly that new models are being introduced as often as every four months in one successful low-price project."

80% of all Dade and South Broward County (Fort Lauderdale) building is speculative.

Gibson says this is necessary because completed homes available for immediate occupancy are necessary to compete successfully for sales.

One result: 109 builders who have not yet completed a home in 1961 are holding 408 unsold houses from last year. Eleven of these builders hold seven or more homes.

One-third of all builders account for 80% of all houses built.

At mid-year Gibson tallied 220 builders who had finished only one house; 78 with two, and 51 with only three houses. Thus 348 of the 464 builders completing a house this year had built 529 of the 2,892 homes completed.

In other words, one-third of the builders accounted for 80% of all homes built. And the 25 biggest builders, or 5.4% of the total, constructed 1,626 houses—54% of the total.

Seattle: Housing is up a whopping 20% to 30% over last year. Reason: Boeing, the city's major employer, has new aircraft orders and a feeling of prosperity is in the air. Says President Lennox Scott of John L. Scott Co, leading builder of higher-priced houses: "Our sales of houses over $40,000 are at an all-time high in seven years."

Sacramento: An unsold inventory of around 2,000 houses still haunts builders who rushed production too far ahead of sales. Many buyers are sitting on their hands, waiting for bargains. But Builder Dick Price, among others, is moving houses at a one-a-day clip. Key: value and good location.

Indianapolis: Apartment building is spurting for the first time in ten years. Garden apartments in the suburbs close to shopping centers are renting fastest (the last multi-family downtown apartment went up a decade ago). One project in the northeast section commands $110 to $125 monthly for two-bedroom units while a second in the northwest rents in the $150 range.

Multi-family units are running 87% ahead of last year, according to Advance Mortgage Corp, and local observers feel new units will surpass 1960's 300 easily. Surprisingly, all apartments started this year are conventionally financed.

The apartment spurt hasn't hurt other newer apartments and FHA says the 5,000 units it insures have less than 2% vacancy.

Older and cheaper apartments near downtown are going begging.

Hardest hit are older apartments and large houses converted to smaller apartments during and after World War 2. Vacancy rates here run between 25% and 50%. Many buildings are for sale, although realtors say they are even harder to sell than to rent.

Owners say many tenants have moved to new homes in the suburbs, where their $65 and $70 monthly payments are less than their rent. Their moving leaves owners in a dilemma: either lower rents to draw families living in worse neighborhoods or spend money for improvements to attract new tenants. With no rent money coming in, few have chosen the latter.

Houston: Residential building permits for the first seven months totaled 3,342, up from last year's seven-month total of 3,112. With the pace still picking up, the prospect is for this year to well outstrip 1960. Big gainers are houses in the $14,000 to $24,000 class. Cheaper houses ($9,000 to $14,000) are lagging.

Salt Lake City: Sales have perked up after a slow spring. Says Executive Officer Ken Done of the local NAHB chapter: "No one is hurting." Builder Alan Brockbank is selling well in two subdivisions. Ned Johansen reports that sales of his $40,000 to $50,000 are running three times ahead of last year. But builders offering poor value or inferior locations are finding sales harder to come by.

Omaha: Land developers are laying out more lots than in any year previous, and the outlook is for 1961 starts to surpass last year's 3,157 handily. In the first eight months, starts already reached 2,967.

New military housing plan avoids red tape

Builders who want to put their eggs in more than one basket are taking a fresh look at a program most have long spurned: military housing.

Thanks to new provisions in the 1961 Housing Act, military housing now offers a broader range of opportunity to a broader range of builders.

Most important change involves FHA Sec 810 under which FHA insures off-base rental housing for service families, civilian employes, and contractors working on defense installations. Through some deft legislative surgery—the handiwork of Chairman Albert Rains (D, Ala.) of the House's housing subcommittee—the restrictions that have hampered 810 since it was written into law in 1959 have been removed. Now, in contrast to Capehart Act military housing, Sec 810 housing 1) doesn't have to be approved in military construction bills, and 2) doesn't require a Defense Dept guarantee of the mortgage payments, if FHA asks for one. This eliminates time-consuming delays for double processing, clearances between agencies, and formal certification of need by the military. Even though 810 is rental housing, FHA expects most units built under it to be one-family structures.

The keynote of Sec 810 now is flexibility —at least as compared to Capehart or the long lapsed but unlamented Wherry Act military housing. Highlights of revamped Sec 810:

Q. How many 810 units are authorized?

A. Currently 5,000 (vs only 1,350 Capehart units not under contract). This looks like all the armed forces can use this year. Early next year, if present plans hold, NAHB will ask Congress to remove all volume limits. FHA is agreeable but won't press for this itself.

Q. What are 810 cost limits?

A. $2,500 a room now (same as the $2,500 rm under FHAs Sec 207 rental program). NAHB wants to get this boosted to $3,500. However, the $2,500 ceiling won't be unduly restrictive, says FHA. Under a liberal room-count system whereby a bathroom and carport each count as half a room and a garage as one, builders can put up $25,000 to $30,000 houses renting for $155 to $175 a month.

Q. Who will determine how many units will be put up, what kind and where?

A. FHA. Under an informal "memorandum of agreement" with the Defense Dept, the military will merely advise FHA of the amount of housing it thinks it needs and at what rental levels. FHA will then take a look at the market potential for itself and make the final decision as to how many units it will insure.

Q. Who will make inspections?

A. Only FHA. Military inspections a la Capehart are out. This will remove a major gripe of Capehart builders who have complained that nitpicking and unrealistic demands by junior engineering officers plus whimsical changes in specifications have made military housing a profitless venture.

Q. How does Sec 810 financing compare with Capehart?

A. Better in some ways, not so good in others. Sec 810 mortgages carry a 5¼% market interest rate which will make the loans more palatable to private lenders than Capehart's 4½%. Both 810's and Capeharts are eligible for FNMA purchase under special assistance (current price: 99). But Capehart mortgages are 100% of estimated replacement cost while 810 loans are limited to 90% of value.

Q. Will Sec 810 be a boon to big builders only?

A. Not necessarily, says FHA. "There's no reason for us to favor a big builder over a smaller one," says an FHA staffer in Washington. And preference will go to builders familiar with the area—which should give local builders a leg up on big out-of-town operators, he adds. Builders interested in Sec 810 should start with their local FHA offices. Processing will be similar to Sec 207 rental housing.

Q. Where will the first 810 houses be built?

Good guesses are around the Air Force's Cape Canaveral in Florida, at the Army's Redstone Arsenal at Huntsville, Ala.; at Navy installations at New London, Conn. and Lemoore, Calif. First houses are likely to be for high-salaried civilian scientists who will want and can pay for more expensive quarters than service personnel.

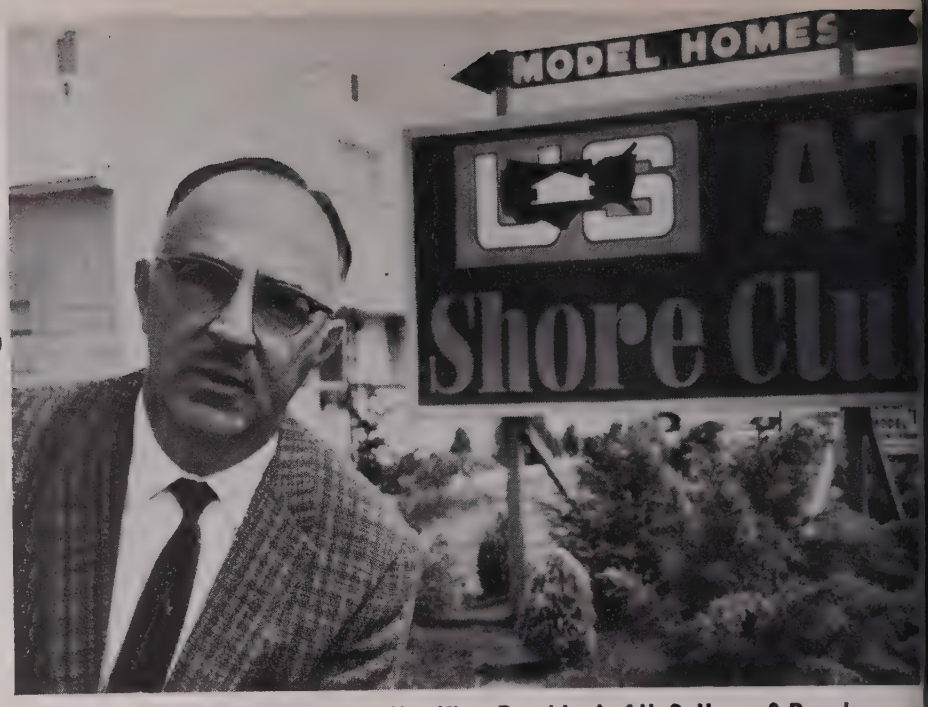
• • •

Mobile home manufacturers have moved a step closer to giving homebuilders a run for the money in military housing.

The Senate appropriations committee recommended that an Air Force request for money to set up trailer courts at nine bases be restored to an Air Force appropriation bill. The trailer funds were deleted by the House. The Senate committee cut the Air Force request from $1,318,000 to $977,000 and slashed site estimates from $2,000 each to $1,500.

The Senate committee said it would "monitor the Air Force trailer court program to determine its applicability to other services in the future." *NEWS continued on p 50*

"Ruberoid's 'Open House Plan' sells homes by selling Quality"



... says Mr. Bernie Chodos, Executive Vice-President of U. S. Home & Development Corporation's "Shore Club" Community, Howell Township, New Jersey.

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"The 'Sell-O-Rama' Display spotlights the quality of the building products used in our homes. It presents a convincing sales story in a way that really holds the prospect's attention. In many instances, Ruberoid's 'Sell-O-Ram was a deciding factor in closing the sale."

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Nearly half of US families eligible for FHA subsidized rental housing

The income limits FHA has just set for the most controversial program in the 1961 housing law will surprise a lot of persons who listened to the stress in Congress about helping families in the $4,000 to $6,000 bracket.

The income limits go all the way up to $7,750 (in Chicago), but this is no higher than expected, considering what Congress finally enacted.

The experimental program (ending June 30, 1963) was widely touted as providing rental housing for families who can't afford new housing at today's prices, but despite some questions Congress finally dropped a proviso from the bill which required that only families excluded from the general housing market could use it (*see box*).

The law set up Sec 221(d)3 to insure 3⅛% loans to co-ops, non-profit and limited dividend corporations, and public agencies not building public housing exclusively. The loans are eligible for special assistance purchase by the Federal Natl Mortgage Association—at subsidized prices.

FHA has set income limits for a family with two children above $6,000 in two-thirds (37) of the 52 offices for which data is complete.

Ceilings in 19 of these offices top the $6,757 median income the Census Bureau reported in 1959 for all urban families. Thirteen cities climb over $7,000.

Still, the limits are higher than the ceiling for continued occupancy in public housing for the same sized family (*see p 67*). Smallest spread between the two is in New York City: the FHA income of $6,900 is only $220 over the new high limit for public housing.

Here's how FHA figured the income limits: district offices were asked to estimate the cost of reproducing a sample two-bedroom apartment built to Sec 207 standards with a maximum room count of 5¾ rooms. (The test unit cost per room is shown in column one of the table below.) This is FHA's time-honored method of acquiescing to needlessly high construction costs in cities saddled with waste-making building codes, labor featherbedding, or inefficient management.

After all but 19 offices had estimated this cost, FHA estimated rentals by using these assumptions: 3⅛% interest rate; no insurance premium; 40-year level annuity amortization; 40% operating expense ratio; 7% vacancy allowance; and 6% return on the 10% equity investment of a limited dividend corporation. Annual income was estimated at five times the yearly rental (column two in the table).

FHA next estimated median family income in each area from information supplied by Census. The lowest of the two figures was then used as the income limit for a family of four.

Result: in 27 cities with low construction costs the income needed to pass a credit screening will govern eligibility; in 25 cities median income of all families governs.

For high cost cities, FHA has devised a complex formula to prevent 221(d)3 units that would require upper-bracket incomes.

Specifically FHA cuts mortgage limits by the percentage the median income falls below the income needed to qualify for the yardstick apartment. Confusing? You bet. Here's how it works out in Providence, for example: the area's median income of $5,700 is 16.9% below the $6,923 needed to rent the sample unit. So the final mortgage limit of $2,000 per room is 16.9% below the $2,386 it would cost to build the sample unit.

C. Franklin Daniels, asst FHA commissioner for rental housing, says FHA had no alternative but to reduce the mortgage amounts accordingly. And the limits arrived at are only for public agencies, co-ops, and non-profit builders. *Limited dividend corporations must cut another 10%.*

Open end—housing style

The 1961 Housing Act does not require income limits on FHA's new subsidized interest rental program—apparently because the management of the complex bill as it moved through Congress involved some masterfully misleading maneuvers.

Here's the untold story:

In presenting the legislation, HHFAdministrator Weaver said "occupancy of the projects would be limited to families and individuals whose incomes preclude them from standard housing in the private market." He promised "FHA would also establish and enforce maximum rentals." But the draft law President Kennedy sent to Capitol Hill was silent on the subject.

The Senate banking committee, reporting the housing bill to the floor for debate, repeated Weaver's explanation and assured the Senate: "This limitation would be achieved through regulatory requirements which would necessarily differ depending on whether the borrower is providing non-profit rental housing, co-operative housing, or limited profit rental housing."

Democrats explained orally that the bill was intended to help families earning $4,000 to $6,000 annually, a group which, contended Sen Paul Douglas (D, Ill.) earn incomes "too high for public housing, and too low for them to get decent housing under existing systems of financing." Sen John Sparkman (D. Ala.) let slip the observation that the program "seeks to provide a rental housing program which will replace the present public housing program."

Attacking Republican senators never seriously questioned Douglas' generalization (which may well be one of housing's biggest fictions). The fact the bill carried no income limit safeguards was mentioned only obliquely: Sen Spessard Holland (D, Fla.) noted that "moderate income families" were not defined in the bill and Sen Harry Byrd (D, Va.) filed an analysis complaining: "The bill does not define moderate income." No limit was contained in the final Senate bill.

The House, meanwhile, required 221(d)3 occupants to be families "whose incomes make it impossible for them to obtain decent, safe, and sanitary housing in the private market."

But the conference committee to resolve differences between the two versions abruptly dropped this limit. Reported Chairman Albert Rains (D, Ala.) of the House housing subcommittee on the limit: "There was no comparable provision in the Senate bill and none is contained in the conference substitute." Thus the final legislative report on the program curiously omits the kind of Congressional mandate against high-income use of the program that helped persuade Congress to adopt it at all.

INCOME, MORTGAGE LIMITS FOR FHA MID-INCOME SUBSIDIZED HOUSING

Insuring Office	Test Unit Cost	Income needed	Maximums Median family income	Mtg. Income Per room	Family of 3, 4
Zone I					
Hartford	$2,250[a]	$6,529	$7,350	$2,250	$6,550
Bangor	2,250[a]	6,529	5,650	1,950	5,650
Boston	2,486	7,213	7,000	2,400	7,000
Manchester, N.H.	2,250[a]	6,529	6,050	2,100	6,050
Albany	2,250[a]	6,529	6,950	2,250	6,550
Buffalo	2,480	7,196	7,100	2,450	7,100
New York	2,624	7,614	6,900	2,400	6,900
Providence	2,386	6,923	5,750	2,000	5,750
Burlington, Vt.	2,250[a]	6,529	6,350	2,200	6,350
Zone II					
Wilmington	2,155	6,253	7,300	2,150	6,250
Washington, D.C.	2,020	5,861	8,050	2,000	5,850
Baltimore	2,053	5,957	6,750	2,050	5,950
Camden, N.J.	2,050	5,948	6,600	2,050	5,950
Newark, N.J.	2,716	7,881	7,350	2,550	7,350
Philadelphia	2,250[a]	6,529	6,600	2,250	6,450
Pittsburgh	2,230	6,471	6,550	2,250	6,450
Richmond	1,853	5,377	6,600	1,850	5,400
Charleston	2,250[a]	6,229	7,000	2,250	6,250
Zone III					
Birmingham	2,119	6,149	5,600	1,950	5,600
Jacksonville	2,055	5,963	5,400	1,850	5,400
Miami	2,385	6,920	5,900	2,050	5,900
Tampa	2,363	6,857	5,100	1,750	5,100
Atlanta	2,296	6,662	6,000	2,050	6,000
Louisville	2,184	6,337	6,200	2,150	6,200
Jackson, Miss.	1,980	5,745	5,350	1,850	5,350
Greensboro	1,866	5,414	5,900	1,850	5,400
Columbia, S.C.	2,250[a]	6,529	5,350	1,850	5,350
Knoxville	2,250[a]	6,529	5,750	2,000	5,750
Memphis	1,893	5,493	5,700	1,900	5,500
Zone IV					
Chicago	2,900	8,415	7,750	2,650	7,750
Springfield	2,638	7,654	6,750	2,350	6,750
Indianapolis	2,384	6,917	7,300	2,400	6,900
Des Moines	2,390	6,935	7,350	2,450	6,950
Detroit	2,379	6,903	7,450	2,400	6,900
Grand Rapids	2,455	7,123	6,700	2,300	6,700
Minneapolis	2,328	6,755	7,700	2,350	6,750
Omaha	2,266	6,575	6,850	2,250	6,600
Fargo	2,409	6,990	7,450	2,400	7,000
Cincinnati	2,343	6,799	6,850	2,350	6,800
Cleveland	2,530	7,341	7,500	2,550	7,350
Columbus	2,428	7,045	7,350	2,450	7,050
Sioux Falls	2,250[a]	6,529	6,850	2,250	6,550
Milwaukee	2,583	7,495	7,550	2,600	7,500
Zone V					
Little Rock	2,250[a]	6,529	5,850	2,000	5,850
Denver	2,086	6,053	7,050	2,100	6,050
Topeka	2,541	7,373	6,900	2,400	6,900
New Orleans	2,610	7,573	6,000	2,050	6,000
Shreveport	2,170	6,297	6,000	2,050	6,000
Kansas City, Mo.	2,315	6,717	7,050	2,300	6,700
St. Louis	2,680	7,631	6,950	2,400	6,950
Albuquerque	2,250[a]	6,529	7,000	2,250	6,550
Oklahoma City	2,037	5,911	6,100	2,050	5,900
Tulsa	2,250[a]	6,529	6,350	2,200	6,350
Dallas	2,250[a]	6,529	5,650	2,250	6,550
Fort Worth	2,250[a]	6,529	6,500	2,250	6,500
Houston	2,032	5,896	6,900	2,050	5,900
Lubbock	2,250[a]	6,529	6,250	2,150	6,250
San Antonio	2,284	6,627	5,500	1,900	5,500
Zone VI					
Phoenix	2,285	6,630	6,300	2,150	6,300
Los Angeles	2,748	7,974	7,350	2,550	7,350
Sacramento	2,354	6,830	7,750	2,350	6,850
San Diego	2,714	7,875	7,450	2,550	7,450
San Francisco	2,592	7,521	7,600	2,600	7,500
Boise	2,250[a]	6,529	6,800	2,250	6,550
Helena	2,250[a]	6,529	7,250	2,250	6,550
Reno	2,706	7,852	7,450	2,550	7,450
Portland, Ore.	2,443	7,089	6,700	2,300	6,700
Salt Lake City	2,119	6,149	7,000	2,100	6,150
Seattle	2,463	7,147	7,750	2,450	7,150
Spokane	2,391	6,938	7,100	2,400	6,950
Casper, Wyo.	2,250[a]	6,529	8,950	2,250	6,550

[a] *$2,250 entered for offices not reporting.*

Can builders put up suitable housing at this lower cost? Daniels thinks they can. But he concedes the housing will certainly have to be below the property standards used for the yardstick unit.

This means that in cities where construction costs must be squeezed, families in the so-called middle-income category will get accommodations inferior to public housing.

Cabinet rank for housing? Congress drops it for '61

The Senate was scheduled to act Sept 7 on the Administration-backed bill to create a cabinet-level Department of Housing & Urban Affairs, but Majority Leader Mike Mansfield (D, Mont.) postponed consideration of the measure until Congress reconvenes in January. Reasons:

1. A secret count of senators indicated the measure does not have a clear majority in the Senate, and so would provoke a sharp floor fight. Mansfield wanted to avoid as

much controversy as possible to speed adjournment.

2. A House version of the bill appeared stalled in the rules committee, which might have made Senate action futile, anyway.

The big stumbling block in Congress is just what it has been all along: HHFAdministrator Weaver seems to be a cinch to become Urban Affairs secretary, but Southern congressmen don't want to see a Negro who is also a strong advocate of racial integration get the job. Administration strategists hoped to keep the bill away from civil rights contention by persuading Southern moderates to support it. But this hope vanished when word got out that Sen John J. Sparkman (D, Ala.) influential chairman of the Senate housing subcommittee, would oppose the measure. Sparkman is normally a loyal Administration supporter; his opposition would have produced solid Southern votes against the bill.

HOUSING ABROAD:

US will back $10 million for Latin American homes

This is the first time the US has agreed to stand behind housing loans in Latin America —loans which rank among the riskiest of investments because revolutions, land confiscation, and inflation all threaten profits.

But the new foreign aid program just passed by Congress and signed by President Kennedy pledges the US to guarantee only 75% of private loans up to $10 million for housing in Latin America. It is part of a program to guarantee $100 million of American investments throughout the world. Considering the hazards, it seems questionable whether mortgage lenders will want to risk the savings of thrifty citizens when they may suffer a 25% loss.

Backers say the amount will provide only a pilot program with relatively few units. But they hope the experience will lead to a bigger program.

Under the law, US citizens, corporations, and partnerships are eligible to apply to the International Cooperation Administration for guaranties against 1) inability to convert foreign currency or credits to US dollars, 2) loss of investment in whole or in part due to expropriation or confiscation of property, and 3) loss due to war, revolution, or insurrection. A fee may be charged, but no amount has been set.

ICA housing officials believe high shipping costs will keep US prefabbers and shell-house makers from getting into the program. However, most Latin American nations insist that native materials and labor be used.

Biggest immediate use may be to woo money—such as retirement funds.

Many of these are now hampered by laws preventing them from investing outside the US. Example: the AFL-CIO is interested in financing construction of housing for some of their members who are Panamanians. But they have been stymied so far by US reluctance to sell land inside the Canal Zone.

Spurred by hope this plan would be approved, Guatemala in June adopted an FHA-style law which is the first of its type in Latin America. The ICA would work closely with such insurance programs. And Chile last year set up a bank which combines in one agency all functions of major US housing agencies plus mortgage loans. The bank, promoted by ICA and American S&Ls, is more of a spur to long-term saving to finance Chilean housing than it is a government mortgage insurance program.

NAHB DIRECTORS:

Builders push triple-subsidy plan as answer to public housing

The plan raised far fewer hackles on the necks of NAHB directors, at their August meeting in Seattle, than anyone had expected. It was received with little debate, in marked contrast to the bitter wrangling at the May meeting (NEWS, July) where directors reversed an historic stand and accepted the idea of public subsidies to help house the lowest 20% of wage earners.

But directors then left unanswered the key question of what kind of public funds should be used. The 1961 Housing Act in June gave the study committee headed by past NAHB President Dick Hughes two recipes. The committee added a third of its own. The three subsidies NAHB is seeking are:

1. Below-market 3⅛% loans under FHA's new bargain-basement rental program (Sec 221d3.)

2. Payments from the $5 million backdoor spending authority Congress gave HHFA for public housing demonstrations.

3. Local tax abatement of $9 a unit per month equal to the average tax subsidy public housing units already get.

The three would be blended this way: units built under the low-interest program would also get local property tax exemption. But tenants would pay even less than this twice-subsidized rate. NAHB would require families to pay only 20% of income. The difference between this and the twice-subsidized cost would be paid from the $5 million demonstration fund.

The plan is tailored for the 6 million US families NAHB's Hughes contends are badly housed because they are poor. Most of them have incomes below $3,000 a year, which puts them in the lowest fifth of income distribution. One out of three is Negro. NAHB would limit occupancy to families in the lowest 20% of income in each community. In Atlanta, for instance, this would mean qualified families could earn no more than $2,200. In New York, the cutoff would be $2,945*; in Los Angeles, $2,790; in Dallas, $2,540.

"Some people say Sec 221d3 is a subsidy," says Hughes of using the controversial section. "Normally people in low income groups pay the highest interest rates [because they are the worst risks—Ed.]. But in this section Congress passes on the government's borrowing power to the low income groups." Using mortgage money subsidized by all US taxpayers cuts the cash payment from HHFA.

Sec 221d3 conceals a subsidy by sleight-of-hand. It permits 50-year, 100% loans at interest no lower than the average rate for all government debt. The current average is 3⅛%, but this is figured by lumping all government obligations from low-interest 90-day bills to high-interest long-term bonds.† Result: the average rate is well below the Government's true cost of borrowing 50-year money.

The bargain-basement loans are eligible for purchase at par (with no purchasing or marketing fees) by the Federal Natl Mortgage Assn, and FHA's ½% insurance premium is waived. Co-ops, non-profit, or limited dividend corporations, and public agencies other than public housing authorities are eligible for these below-cost loans.

NAHB plans pilot projects in San Antonio, Washington, Cleveland and Denver.

Each will try to show how the triple-blend of subsidies will work under different local conditions. Cities were chosen because their local governments will cooperate and because builders there are enthusiastic.

San Antonio's project will be built by Quincy Lee, chairman of NAHB's low-income housing committee. He will build 100 single-family homes costing $8,000, 50 for rent under Sec 221d3 and 50 for sale under Sec 221. The sale houses normally would cost $60.29 monthly, including taxes and insurance, under Sec 221's regular 5¼% interest. The $9 tax abatement which NAHB seeks would cut this to $51.29.

Buyers earning $200 a month would pay $40 monthly under the NAHB formula. The difference of $11.29 (plus a $200 down payment) would be paid from the HHFA demonstration grant.

To keep buyers from reselling the homes at a profit, deeds would be held in escrow by the local government. The HHFA subsidy would have to be repaid by the owner before the buyer would receive the deed.

The 50 rental homes would, with the lower Sec 221d3 interest rate, rent for an estimated $55.20. Tax abatement would cut this to $46.20, so the federal subsidy to a renter earning $200 monthly would be $6.20 monthly.

Washington's project will be built by W. Evans (Bucky) Buchanan, NAHB second vice president. He plans two groups of 50 apartments in two suburbs financed under Sec 221d3. After tax abatement, units would rent for $63.50. The NAHB committee expects these units to serve families able to pay about $50 monthly, leaving $13.50 to be paid by HHFA.

Hughes says 50 of these units may eventually be sold, but FHA Commissioner Neal Hardy has not yet agreed to this.

Cleveland's pilot project is expected to be built on land cleared by urban redevelopment. This year's Housing Act lets cleared land to be sold at "fair value" without bidding for moderate rental housing. Builder George Seltzer hopes he can construct units for $12,000.

Denver's project is still being worked out, says Hughes.

Hughes himself will refinance 100 Sec 608 units in **Wichita Falls, Tex.** under Sec 221d3. The units (50 one-bedroom, 50 two-bedroom) cost $5,000 a unit, and Hughes plans to spend $2,000 a unit on improvements, including air conditioning and carpeting. When refinanced at the 3⅛% interst, the units will rent for $34.19, plus maintenance and management costs.

HHFAdministrator Weaver calls the NAHB plan "ingenious."

Hughes describes Weaver's reaction to the NAHB plan as "enthusiastic." But he has not yet given a go-ahead on paying the extra subsidies from his special demonstration fund.

Hughes says that the 400 units planned by NAHB could use $1.8 million of this if all were operated at full subsidy for the full term of the loans. But he expects that some units will be sold to individuals (perhaps under condominium at market interest rates) before the 50-year loans expire.

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* In New York City a family of five or more may earn $8,112 and still live in public housing.
† Longest-term US bond now outstanding (expires 1998) currently yields 4.05%. This means the 221d3 interest formula nicks taxpayers for a 25% subsidy on the interest cost. To state it another way, for every $1 the US eventually lends under the program, its taxpayers will kick in 25 a year—if money rates stay at today's levels.

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Interest rates move up

FHA and VA discounts continue their slow rise. More and more loans go to Fanny May

The trend that began in August is making itself felt more widely.

Discounts on FHA and VA mortgages increased ½ point to a point in five cities in HOUSE & HOME's monthly 17-city survey. Some mortgage men are offering investors getting higher yields by making servicing concessions—typically, ¼% instead of ½% for four years, which is equal to 1 point discount.

Conventional loan rates are rising, too. A few S&Ls have boosted mortgage interest rates; others do more of their business at the top edge of quoted spreads. Many are boosting yields without raising rates by charging bigger fees.

Investors still show little interest in buying FHAs at yields in line with Fanny May-supported prices. An expected revival of mortgage buying after summer vacations isn't materializing. Says President Robert M. Morgan of Boston's Five Cents Savings Bank: "I'm surprised there hasn't been more interest since Labor Day."

Who's buying loans? Fanny May. Secondary market purchases have been running at the rate of $10 million a week, vs only $5 million a week in July. Offerings are up even more sharply.

The uptrend of rates may continue but its pace will probably be gentle.

"Investors want the yield," sums up President Stanley Earp of Detroit's Citizens Mortgage Corp. But economists point out that while interest rates fell during the recession, they did not fall to the low level of other recent business dips. So they will probably rise less during this recovery. Moreover, investment capital is still ample: consumer purchasing of durable goods, a major factor in credit demand, still lags, and plants haven't been expanding or building up inventories as anticipated. Says Economist Nat Rogg of NAHB: "Capital demand is growing at a slower rate than in previous recoveries."

FHA won't boost its basic interest rate from 5¼% to 5½%—now.

The decision was announced after a top-level meeting of Administration economists and housing men in Washington at midmonth. Such negative pronouncements are rare. But mortgage circles had been buzzing with talk that a boost might be imminent, and the Wall Street *Journal* fanned this hope with a dope story that FHA was considering a rate increase. Government housing men feared lenders would hold off on commitments in hopes of a higher return.

Invited to the meeting were Lee C. White, assistant special counsel to President Kennedy; FHA Commissioner Neal Hardy; Kermit Gordon, housing expert in the Council of Economic Advisers; Robert C. Turner, assistant budget director; Fanny May President Stanley Baughman; HHFA General Counsel Milton Semer; Philip Brownstein, VA's chief benefits director.

The FHA rate, concedes one government housing official, "is the acid test as to whether this Administration is honest when it says it believes in flexible interest rates—" ie rates that go up as well as down. But indicating current Administration thinking, he adds: "So far, the market doesn't warrant a boost. The recovery from the recession isn't dragging up rates as in the past."

New long-term FHA and S&L loans aren't making much dent in the market.

A few lenders have expressed interest in 35-year FHAs. Washington's Frederick W. Berens is selling a loan to a savings bank at ½ point below its 30-year price (96½), reports Executive Vice President Hector Hollister. It has a future commitment on a subdivision at 96, same price as 30-year futures. Vice President Robert E. Morgan of Los Angeles' Colwell Co. reports nibbles from some investors at prices ranging from par with 30-year loans to a point under. But most investors still refuse to talk about 35-year loans. Builders aren't generating much pressure for them yet either. Many shun them because of the extra discount. Others are shy because they know investors don't want them.

S&Ls aren't rushing into the 30-year market in volume either. A few are making the loans but some will only go to 80% instead of the now permitted 90%. Others will go 90% but only for 25 years. In Miami, an S&L is offering the whole package—but at a higher interest rate and with extra fees tacked on. S&L men say that a loan has to be a prime one to get the maximum terms. Adds New York S&L man Floyd Cramer, new president of the Natl League of Insured Savings Associations (*p 74*): "The longer term won't bother us much, but most S&Ls will want more than the 10% down payment."

Tax break on FNMA stock

Under a 1960 law, mortgage bankers can deduct as a business expense any losses they suffer in reselling the Fanny May stock they have to buy when they sell loans to the agency. The law reversed a 1958 Internal Revenue Service ruling that the loss must be treated as a capital loss—ie, with limited deductibility.

But the law was mum on what mortgage bankers could do about lossess prior to 1960. For many a mortgage banker, the stock purchase—1% of the amount of the mortgage—represented a sizable loss since the stock then sold for around 50¢ on $1 (current price: 77 bid). Now, a Tax Court ruling has held that in cases arising before the new law, the mortgage banker can write off the losses in full, too. IRS has 90 days to decide whether it will go along with the decision in all pending cases, or continue to resist it.

Ten Percenters (cont'd)

The state of California has stepped in to help bail out 406 San Francisco area homebuyers threatened with the loss of their homes in the wake of the celebrated Ten Percenter crash.

Residents in three subdivisions in Napa, Solano, and Contra Costa counties bought houses under contracts of sale. First trust deeds on the houses were held by two saving & loan associations, Home Mutual and Berkeley, both members of S&L Tycoon Mark Taper's empire. The builder, LeMount Construction Co, which kept title under an installment sale scheme, sold contracts. They wound up in the hands of the Mason Mortgage Co of Washington, D.C. as second trust deeds on the properties. Mason sold the deeds to investors, then went into bankruptcy last year. When the S&Ls and second-trust-deed investors didn't receive their payments, they sued to foreclose.



S&L BOSS SILBAUGH
Unscrambling a mess

Gov Edmund Brown, already hip-deep in a $70-million second-mortgage mess (NEWS, Sept), ordered State S&L Commissioner Preston Silbaugh to find a way to stave off the foreclosures. The S&Ls agreed to cooperate.

Silbaugh's solution: reappraise and refinance the houses, giving the homebuyers title in place of the installment contracts. Since most of the houses have appreciated in value —some $13,500 houses are reportedly worth around $16,800 now, thanks in part to additions like patios and fences—there seems to be enough new equity available to make refinancing easy, says Silbaugh. Holders of second-trust deeds may have to compromise, he says, but he's "fairly certain" they will. Otherwise, he adds, their equity could be wiped out by foreclosure of the first-trust-deed holders. The appraisals are being made by the S&Ls.

As a result of the Mason debacle, two investigations are also in the works: 1) a district attorney's probe to find out what happened to the money paid by the homebuyers which never reached the trust-deed holders and 2) a State Assembly finance committee probe to frame legislation to prevent such troubles from happening again.

Gov Brown has set up a program to furnish advice and legal aid to the 20,000 Californians left in the lurch when 11 Ten Percenter firms in California went broke.

FNMA expands 221 purchases

Now the agency will buy FHA insured mortgages on one-to-four-family sales housing for low- and moderate-income families (Sec 221d-2) under its secondary market operations. This is the first time FNMA has included loans eligible for special assistance in its secondary market purchases.

The mortgages, authorized under this year's Housing Act which liberalized the entire 221 program (NEWS, Aug), carry a market interest rate of 5¼%. FNMA's price for the loans: 1 point under its regular FHA Sec 203 5¼% secondary market prices. FNMA also will buy FHA Sec 203i 5¼% home mortgages ($9,000 and under, in areas where regular financing is unavailable) at 1 point below Sec 203 prices. FHA has eliminated the extra ½% service charge permitted on 203is, thus sharply reducing their attractiveness to private lenders (NEWS, Sept).

For both 221d-2 and 203i mortgages for not over 30 years, immediate purchase prices will range from 96 to 98, depending on the area and amount of downpayment. Prices will be cut ½ point for each five-year term beyond 30.

FHA speeds claims payoffs

In a move that will be welcomed by mortgage lenders, FHA has set up a new system for faster payment of debentures for defaulted insured loans. Now lenders will:

- Receive 80% of the unpaid balance of a foreclosed mortgage within 30 days after FHA is notified that title to the property has been transferred to the agency.
- Receive the remaining 20% after FHA completes its regular processing of the claim.

Reason for the drastic step: a sharp increase in defaults coupled with a staff shortage has produced a huge backlog of claims. Payments to lenders have been delayed more than a year. Even though the debentures are dated back to the time foreclosure was begun, lenders complained that FHA's sluggish processing was tying up loan capital and depriving them of debentures to pay FHA insurance premiums.

Applying the partial settlement method to the present $115 million backlog will pump some $92 million back into the mortgage lending system right away, says FHA Commissioner Neal J. Hardy. FHA's 20-year debentures currently carry an interest rate of 3¾%.

To obtain partial settlement, lenders must fill out a supplementary form (No. 1125) in addition to the regular claim form (No. 1025) notifying the agency of title transfer.

IRS rules on co-op taxes

An advisory ruling by the Internal Revenue Service nibbles away at some of the advantages of co-op ownership.

The buyer of a co-op apartment who subleases it cannot depreciate or amortize his investment in his income tax as can be done in other kinds of residential rental property. He may take deductions for interest and property taxes, however. IRS's rationale for the ruling: a co-op apartment owner is a stockholder, doesn't hold title to the property. Depreciation is not allowed on stock.

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MORTGAGE MARKET QUOTATIONS

(Sale by originating mortgagee who retains servicing.) As reported to HOUSE & HOME *the week ending Sept. 15, 1961*

	FHA 5¼s (Sec 203) (b)						VA 5¼s			Conventional Loans		Construction Loans[w]	
	New Construction Only				Existing[a]		New Construction Only					Interest + fees	
FNMA Scdry Mkt[x,y]	Minimum Down* 30 year Immed	Fut	10% or more down 20-25 year Immed	Fut	Min Down 25 year Immed	City	FNMA Scdry Mkt[x,y]	No down 30 year Immed	Fut	Comm. banks, Insurance Cos.	Savings banks, S & Ls	Banks, Ins Cos. & Mtg Cos.	Savings banks, S & Ls
96½	95-96	95-95½	96-96½	a	95-95½	Atlanta	96½	95-96	95-95½	5¾-6	6-6½	6-6½+2-2½	6-6½+2-2½
97½	par-101	par-101	par-101	par-101	par-101	Boston local	97½	par-101	par-101	5¼	5¼	5¼	5¼
—	95-95½	95-95½[b]	a	a	95[b]	out-of-st.	—	95-95½	—	—	—	—	—
96½	96-97	95½-97	96½-97½	96½-97½	96-97	Chicago	96½	96-97	95½-97	5½-6	5½-6	5¾-6+1-2	5¾-6+1½-2½
96½	97-98	97[b]	98-99	98	98-99	Cleveland	96½	96-97	95-96[b]	5½-5¾	5½-6	6+1	6+1
96	96-97	96-97	96-97	96-97	96-97	Denver	96	95½-97	95½-97	5¾-6	6-6½	6+1½-2½	6+1½-2½
96	95½-96	95½	96-96½	96	95½-96½	Detroit	96	95-95½	95	5½-5¾	5½-5¾	5¾-6+½	5¾-6+½
96	95½	95½	96	96	95½-96	Honolulu	96	—	94	6¼-7	6¼-7	6+1½	6+1½
96½	95-95½	a	96½	a	95-95½	Houston	96½	95-95½	a	5¾-6¼	5¾-6½	6+1-1½	6+1-1½
96	95[b]	94½	96[b]	96[b]	96[b]	Los Angeles	96	95[b]	94[b]	5¾-6	5¾[b]-6.6	5¾-6+1½	6+2-2½
96½	94½-95½	a	96-97	a	96-97	Miami	96½	95-95½	a	5¾	5½-6	6+1	5¾+0-½
97	97-97½	96½	98	97	97½	Newark	97	96½	95½[b]	5½-5¾	5½-6	6+1	6+1
97½	97	97	97	97	97	New York	97½	97	97	5¾	5¾	6+0-½	6+0-½
96	95-96	95-95½[b]	96	a	95-96	Okla. City	96	95-96	95[b]	5¾-6¼	5¾-6¼	6-6½+1-2	6-6½+1-2
97	98	98[b]	98	98[b]	98	Philadelphia	97	98	a	5½-5¾	5½-6	6+1	6+1
96	95½[d]-96½[b]	95½[d]-96½[b]	96-96½[b]	96-96½[b]	95½-96	San. Fran.	96	95½[d]-96½[b]	95½[d]-96½[b]	5¾[b]-6	6-6¾	6+1½	6.6+2-3
96½	94½-97	94½-97	95½-97	95-97	94½-97	St. Louis	96½	a	a	5½-6	5½-6½	5¾-6.6+1-2	5¾-6.6+1-2
97	96½	96	96½	96	96½	Wash. D.C.	97	96½	96	5¾	5¾	5¾+1-1½	5¾+1-1½

[a] 3% down of first $13,500; 10% of next $4,500; 30% of balance.

SOURCES: Atlanta, Robert Tharpe, pres, Tharpe & Brooks Inc; Boston, Robert M. Morgan, pres, Boston Five Cents Savings Bank; Chicago, Murray Wolbach Jr, vice pres, Draper & Kramer Inc; Cleveland, David O'Neill, vice pres, Jay F. Zook Inc; Denver, C. A. Bacon, vice pres, Mortgage Investment Co; Detroit, Stanley M. Earp, pres, Citizens Mortgage Corp; Honolulu, Gordon Pattison, vice pres, Bank of Hawaii; Houston, Donald McGregor, exec vice pres, T. J. Bettes Co; Los Angeles, Robert E. Morgan, vice pres, The Colwell Co; Miami, Lon Worth Crow Jr, pres, Lon Worth Crow Co; Newark, William F. Haas, vice pres, Franklin Capital Corp; New York, John Halperin, pres, J. Halperin & Co; Oklahoma City, M. F. Haight, first vice pres, American Mortgage & Investment Co; Philadelphia, Robert S. Irving, vice pres, First Pennsylvania Banking & Trust Co; St. Louis, Sidney L. Aubrey, vice pres, Mercantile Mortgage Co; San Francisco, Raymond H. Lapin, pres, Bankers Mortgage Co of Calif; Washington, D. C., Hector Hollister, exec vice pres, Frederick W. Berens Inc.

▶ Immediate covers loans for delivery up to 3 months: future covers loans for delivery in 3 to 12 months.

▶ Quotations refer to prices in metropolitan areas: discounts may run slightly higher in surrounding towns or rural zones.

▶ Quotations refer to houses of typical average local quality with respect to design, location, and construction.

Footnotes: a--no activity. b--limited activity. d typically with servicing concession. w--six months construction loan unless otherwise noted. x FNMA pays ½ point more for loans with 10% down or more. y -FNMA net price after ½ point purchase and marketing fee, plus 1% stock purchase figured at sale for 50¢ on the $1. z on houses no more than 30 years old of average quality in a good neighborhood.

NEW YORK WHOLESALE MORTGAGE MARKET

FHA 5½s
Immediates: 96½-97½
Futures: 97

FHA, VA 5¼s
Immediates: 94½-95½
Futures: 94½-95

FHA 5¼ spot loans
(On homes of varying age and condition)
Immediates: 93½-95

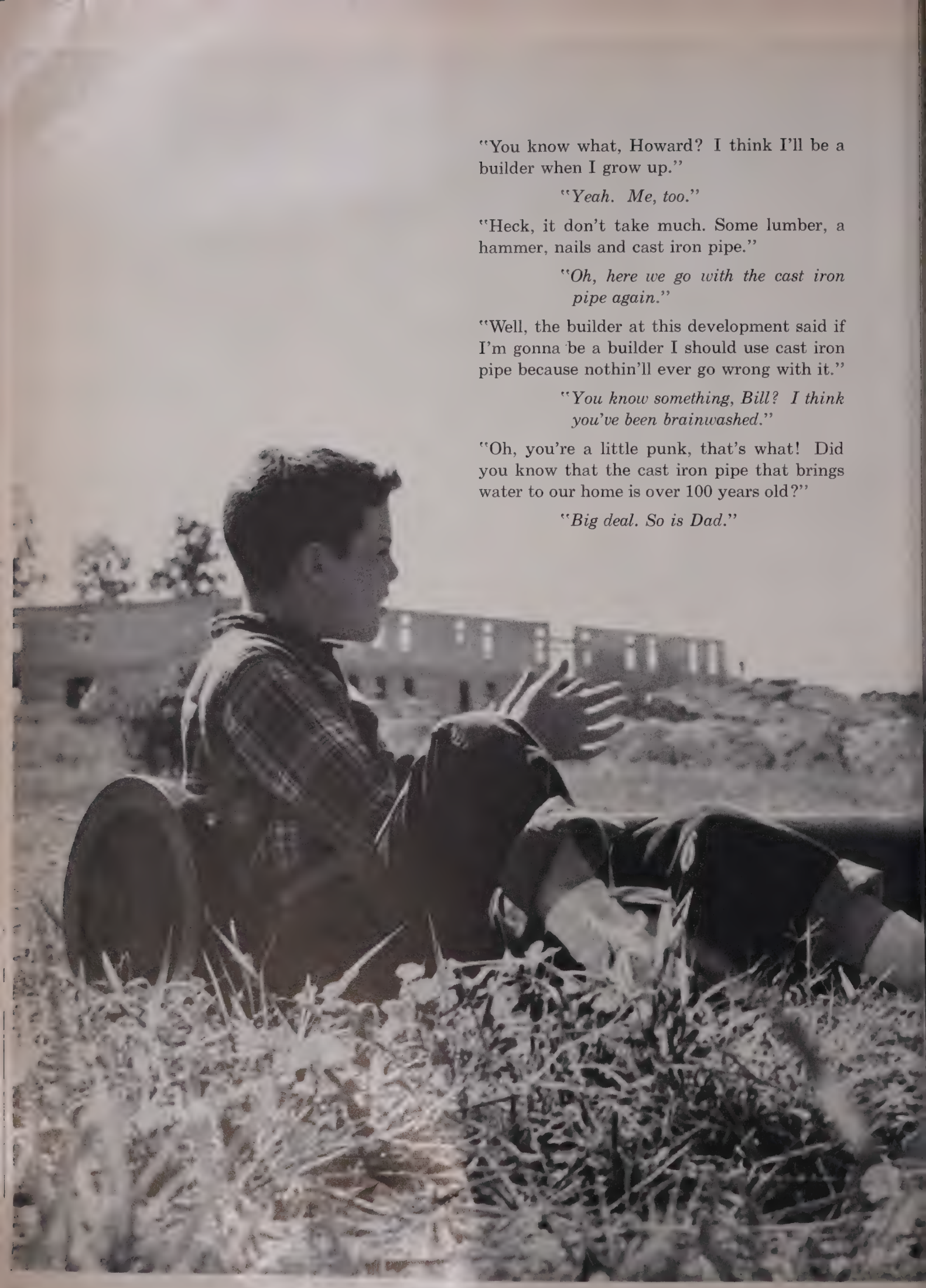
Prices for out-of-state loans, as reported the week ending Sept 15 by Thomas P. Coogan, president, Housing Securities Inc.

Note: prices are net to originating mortgage broker (not necessarily net to builder) and usually include concessions made by servicing agencies.

FNMA STOCK

	Aug 8	Sept 14	Month's low	Month's high
Bid	74½	78	75	80½
Asked	76½	80	77	82½

Quotations supplied by C. F. Childs & Co.



"You know what, Howard? I think I'll be a builder when I grow up."

"*Yeah. Me, too.*"

"Heck, it don't take much. Some lumber, a hammer, nails and cast iron pipe."

"*Oh, here we go with the cast iron pipe again.*"

"Well, the builder at this development said if I'm gonna be a builder I should use cast iron pipe because nothin'll ever go wrong with it."

"*You know something, Bill? I think you've been brainwashed.*"

"Oh, you're a little punk, that's what! Did you know that the cast iron pipe that brings water to our home is over 100 years old?"

"*Big deal. So is Dad.*"


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17 real estate investments trusts, 18 builder-developers seek funds

In some growth industries, experts say products and services that didn't exist five years ago now account for almost a third of their gross. In a sense, housing's rush to the stock market seems on the way to creating a similar situation.

Two years ago, before passage of the Real Estate Trust Act of 1960, income tax laws made formation of realty investment trusts useless. And you could count on the fingers on one hand those builders and land developers whose stock was widely enough held to require securities' registration.

The last 12 months' figures on stock issues registered with the Securities & Exchange Commission show how fast the scene is changing. No less than 17 real estate investment trusts have applied for permission to sell more than $125 million of securities to the public. No less than 18 builders, community planners, and land developers have sought federal approval to float issues. Some 17 real estate investment companies (equity ownership instead of mortgage holdings as with realty trusts) have asked SEC to approve securities. There have been a dozen shell homes issues, ten savings and loan holding company issues, seven mortgage company issues. *Latest builder issues include:*

● The Lusk Corp (Bob Lusk, president), which began building in 1948 with $10,000 capital and grossed $12 million last year on sales of 1,000 homes (H&H, Jan.), is seeking SEC approval of $1,250,000 of 6½% convertible subordinated debentures due 1971, plus 200,000 shares of common stock and five-year warrants to buy 50,000 common shares. Offering prices are not yet set. The Tucson-based company plans to 1) repay $375,000 of a $750,000 loan, 2) pour $250,000 into land buying and promotion of a new subdivision in Phoenix, 3) earmark $1 million for a projected expansion into Los Angeles.

● United Improvement & Investing (Jerome F. Katz, chairman) wants approval to sell $2.5 million of 6% convertible subordinated debentures due 1976. Proceeds will be used to expand the New York-based company's mortgage origination and servicing and its land development business. The company is also involved in title insurance, rental housing ownership and management, recreational club operation.

● First Natl Realty & Construction Corp, New York, wants to sell $3 million of 6½% subordinated debentures due 1976 (with attached ten-year warrants to buy 540,000 common shares —90 per $500 of debentures). The company was formed in March 1960, builds, manages, and invests in housing and other realty. Robert Grundt is chairman, Max Steinberg president.

Shell homes companies are scrambling for public financing largely to cut the cost of financing credit sales. Says United States Shell Homes of Jacksonville in its prospectus: "The availability of financing for its credit sales is the single most important factor affecting the volume of its business. US Shell (president Carl W. Knoblock Jr was formerly a stock broker) wants to issue 8,000 shares of 5% cumulative convertible preferred, $100 par.

Modern Homes of Valdosta, Ga. (3,892 homes sold last year) is seeking registration of $5.5 million subordinated debentures and 550,000 shares of common. It will use part of the money to invest in its wholly owned subsidiary, Modern Homes Finance Co.

Western Shell Homes, Portland, Ore. has just sold 120,000 shares of common (at $2.50), will set up Western Acceptance Co to finance prefabs and components.

HOUSING'S STOCK PRICES

Company	Offering Price	July 11 Bid	July 11 Ask	Aug 9 Bid	Aug 9 Ask	Sept 12 Bid	Sept 12 Ask
BUILDING							
Adler-Built Ind.	e	NA	NA	NA	NA	2¼	2¾
Eichler Homes..	e	10¾	11¼	8½	9	8½	9
First Natl Rlty & Const	2	4½	4⅞	4⅞[b]		4¼	4½
General Bldrs ..	e	7½[b]		7⅞[b]		8¼[b]	
Hawaiian Pac Ind	10	12⅝	13⅛	14	14½	13¼	13¾
Kavanagh-Smith.	5	9½	10¼	9	9½	8	8¾
Levitt 10		7	7¾	6½	7	6¼	6¾
US Home & Dev	e	2¼	2¾	2¾	3¼	2⅛	2½
Del Webb	e	10¾	11¼	10⅝	10⅞	10¼	10¾
Wenwood	e	1	1½	1	1⅜	⅜	¾
LAND DEVELOPMENT							
All-State Prop .	e	13[b]		10⅝[b]		9½[b]	
Arvida	e	9	9¼	9¾	10⅛	9⅝	9¾
Cons Dev (Fla)	5	10½	11½	10½	11½	10¾	11⅛
Coral Ridge Prop	e	2	2½	1⅞	2⅛	1⅝	1⅞
Fla Palm-Aire .	e	2¼	2½	2	2½	2	2¼
Forest City Ent.	10	14⅝[b]		12½[b]		12¾[b]	
Garden Land ..	6¼	4½	5	4⅞	4⅞	4¼	4¾
Gen Dev	e	16[b]		14¼[b]		15¾[b]	
Grt Southwest.	18	19	20	21¼	22	20⅝	21¾
Laguna Niguel..	e	12½	13	12	12½	11½	12
Lefcourt	e	2½[b]		2⅛[b]		2¼[b]	
Major Rlty	e	3⅞	4⅛	3⅜	3⅝	2¾	3
Pac Cst Prop.	10	8⅞	9⅝	10	10½	9¼	9¾
Realsite Inc ...	e	1½	2	1¾	1⅝	1¼	1⅜
United Imp & Inv	e	8⅝[b]		8⅜[b]		8⅝[b]	
S&Ls							
Calif Fin	e	44½	45½	40½	41½	45½	46½
Imp Fin	e	23¼	24	19¼	20¼	24¾	25½
Equitable S&L.	23	a	a	a	a	29	30
Fin Fed	e	90	93	96	98	108	112
First Chrtr Fin.	e	45¾[c]		48[c]		57½[c]	
First Fin West..	e	18	18¾	15⅜	16¾	19½	20½
Gibraltar Fin ..	e	40	41½	38	39	39	41
Grt Western Fin.	e	46½[c]		49½[c]		58⅝[c]	
Hawthorne Fin..	e	12¾	13½	13	13½	14	14¾
Lytton Fin	e	23	24	21	22	26	27
Mdwstrn Fin ..	8¾	21½	22½	18½	19½	20	20¾
San Diego Imp.	e	11⅝[c]		11⅞[c]		13¾[c]	
Trans Cst Inv.	15	21½	22½	23	24	27¼	28
Trans World Fin	8⅝	22	22⅝	25	26	28¼	29

Company	Offering Price	June 11 Bid	June 11 Ask	Aug 9 Bid	Aug 9 Ask	Sept 12 Bid	Sept 12 Ask
Union Fin 15		14½	16	13½	14½	14	15
United Fin of Cal	10	35	35¾	34¼	34¾	46	47
Wesco Fin	e	38	39	40¼	41	48¾	49¾
MORTGAGE BANKING							
Colonial	9	12¾	13½	13¾	14½	12½	13¼
Colwell 10		29	31	27	28	28½	30
Palomar	e	22¼	23	21½	22½	21	22
REALTY INVESTMENT							
Gt Amer Rlty..	e	½	¾	½	¾	⅝	⅝
Kratter A	e	25¼[b]		24⅝[b]		26¾[c]	
Presidential Rlty	6¾	NA	NA	NA	NA	12⅝[b]	
Rlty Equities ..	5¼	7[b]		6¼[b]		7⅛[b]	
Wallace Prop ..10		11½	12	13¼	13¾	14¼	14¾
PREFABRICATION							
Admiral Homes..	e	3¾	4¼	3½	4	3½	4
Crawford 1		10¾	11	10¼	11	7½	8½
Harnischfeger ..	e	22	23	22¼	23	21⅜[b]	
Inland Homes..	e	18[b]		18¼	18½	15¼[b]	
Natl Homes A..	e	16½	17	13¾	14¼	10½	11¼
Natl Homes B..	e	16¼	16¾	13⅝	14⅛	10¼	11
Richmond Homes	e	3	3½	2⅞	3⅛	3¼	3⅝
Scholz Homes ..	e	3¼	3⅝	3	3⅜	2⅞	3¼
Seaboard Homes..	e	3⅜	4¼	2⅞	3⅜	2½	3
Steel Crest Homes	e	NA	NA	NA	NA	6½	7½
Techbilt Homes .	e	¼	¾	¼	¾	¼	⅝
SHELL HOMES							
Bevis	d	3	3⅜	2¼	2¾	2⅛	2⅝
US Shell	e	22½	24½	26½	28½	20½	22½
Jim Walter ...	e	47	48	39	40½	28	30⅜
Western Shell ..	2½	a	a	a	a	2	2½
Wise Homes....	e	10	10¾	7½	8	4½	5

[a] stock not yet marketed
[b] closing price (ASE)
[c] closing price (NYSE)
[d] issued in units, each consisting of five 50¢ par common shares, one $8 par 9% subordinated sinking fund debenture, due Feb 1, 1985, and warrants for purchase of one common share and one $8 debenture at $9.50 per unit, expiring Dec 31, 1962 and 1964, respectively, at $15.50 per unit. Prices quoted are for common stock.
[e] stock issued before Jan 1, 1960

Sources: New York Hanseatic Corp, American Stock Exchange; New York Stock [illegible]

HOUSING STOCKS GAIN

The improvement from mid-August to mid September, was not general. Most of it was attributable to S&L holding company stocks. These soared from August's 31.70 to 36.89 last month, a pickup of 16.4% in contrast to August's 0.2% dip. Every S&L stock on HOUSE & HOME's list rose, reflecting a revival of investor interest now that the Administration's push to boost thrift institution taxes is dead for this year.

Realty investment stocks posted a gain of 8.7% — from 11.16 to 12.13 in the index — but all other categories went down. Biggest losers were shell house issues. The group index dropped 26.7%—from 18.81 to 13.78. Jim Walter plunged for the second straight month, this time from 39 to 28 bid. US Shell was also off sharply, from 26½ to 20½ bid. Stock analysts blame rising competition in shells, which has cut into earnings of most smaller concerns and leveled off Walter's profits.

Prefabs fell off 14.3% as a group, from 9.06 to 7.76. In comparison, Dow-Jones industrials gained a mild .7% (from 717.57 to 722.61) as did Natl Quotation Bureau industrials (from 125.65 to 126.50).

Here are HOUSE & HOME's averages, combining closing prices for listed stocks with bid prices for over-the-counter issues:

	July 11	*Aug 9*	*Sept 12*
Building	7.32	7.13	6.81
Land development....	8.58	8.25	8.14
Finance	31.76	31.70	36.89
Mortgage banking ...	21.33	20.75	20.67
Realty investment	11.06	11.16	12.13
Prefabrication	9.70	9.06	7.76
Shell homes	20.63	18.81	13.78
TOTAL	16.22	15.86	16.67

Innocent buyer laws

continued from p 44

San Francisco ordinance passed last November requiring sellers to certify the building complies with all city codes. Violation can bring up to three months in jail and a $500 fine. Nearby Oakland and Richmond are following the San Francisco lead. Organized builders in Richmond persuaded the city to give houses a physical inspection and then stand behind it, putting the burden of whether a house complies on an inspector.

Executive Vice President Bill Leonard of the Greater East Bay Home Builders says such laws are a "tremendous stimulant" to both remodeling and new house sales. He predicts they will become standard in California. But enforcing such laws is difficult. Nearly one-third of sellers in San Francisco ignore the law, contends Deputy City Attorney Thomas M. O'Connor.

Hodgson Homes merging

Hodgson Homes of Dover, Mass., the nation's oldest name in prefabbing, is aiming to treble its market and get itself out of the red by a merger.

Via a stock swap, control of the 70-year old company has shifted to the Sondik Companies, Hartford building materials' distributors whose president, Leon Sondik, succeeds Kenneth W. Spalding as president of Hodgson. Spalding remains chairman but gives up his majority control of the merged concern.

The Sondik Companies showed a pretax profit of $200,000 in their last fiscal year against an $8,000 loss for Hodgson (on sales of $642,000). So the merger may well boost the price of Hodgson stock, bid at 30¢/share in May. Since December 1954, Hodgson has run up a $218,000 deficit, leaving it with a sizeable operating loss carry-forward for use against future taxable income.

NEWS continued on p 63

RELY ON Simpson QUALITY BUILDING PRODUCTS



This room featured in October Better Homes and Gardens

Three Simpson Products

to help you build better homes at greater profit

LIFECLAD®
Walls that stay beautiful

FORESTONE*
Sculptured ceilings that soak up sound

SEVEN-ELEVEN® DOORS
Save up to $10 per opening

See next 3 pages for details

* REG. U.S. PAT. OFF. PAT. NO. 2,7...,0...



Luxurious LIFECLAD pre-finished plywood

Saves labor costs... reduces construction time

Simpson Lifeclad plywood is a moderately priced, extremely durable interior paneling with the luxurious appearance of hand-rubbed wood. It is beautiful . . . stays beautiful, yet requires no costly on-the-job finishing. Lifeclad can save both material and labor costs while reducing construction time in residential or commercial construction. LIFECLAD'S PERMANENT FINISH is achieved through an exclusive process which bonds a tough, durable vinyl plastic to a base of select plywood. You can see and feel the difference.



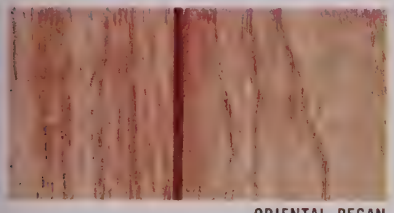
Both clear and gravure wood grained overlays are used to provide a choice of six finishes which will not chip or delaminate.

LIFECLAD STAYS BEAUTIFUL... Laboratory tests proved that Lifeclad gravure wood grained finishes will not fade or discolor, even in direct sunlight. There is no sign of fading after tests equaling literally years of exposure.

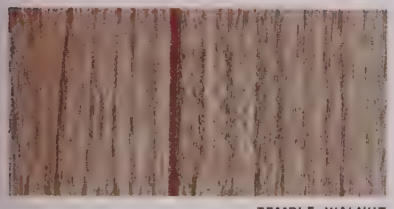
LIFECLAD WASHES CLEAN... No ordinary household compound can penetrate or stain its smooth vinyl surface. You can demonstrate to prospective purchasers that splashes, smears and sticky finger prints wipe clean in an instant, leave no trace. Laboratory tests equalled over a thousand home scrubbings without damaging Lifeclad's finish.



LIFECLAD'S BROAD SELECTION of materials offers the complete solution for almost any decorative wall or cabinet use. Five handsome woodgrain finishes and one clear overlay on natural wood are available on ¼", ⅜", ½" and ⅝" paneling stock; ¾" cabinet stock (finished one or both sides). All standard Simpson flush doors, including the Seven-Eleven ceiling height door are available in matching finishes. Lifeclad arrives factory-fresh in protective cartons.



ORIENTAL PECAN



TEMPLE WALNUT



VERMONT CHERRY



ARABIAN SANDALWOOD



SABLE WALNUT



CASCADE HEMLOCK

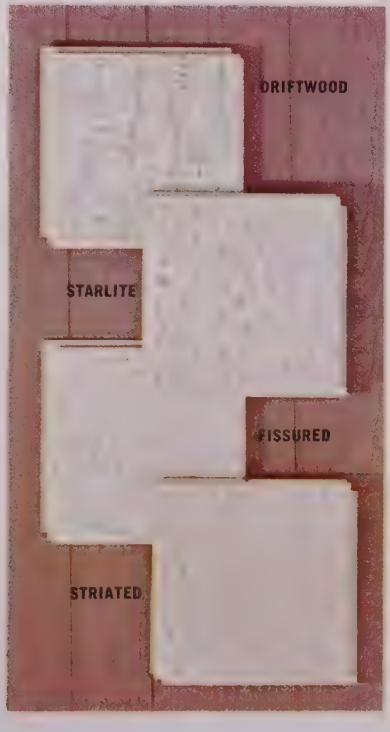


Forestone® *Acoustical Ceilings*

These dramatic woodfiber acoustical ceiling tiles combine highly effective noise control with smart contemporary beauty. You can see and feel the original deep-etched sculptured surface that provides permanent beauty and sound conditioning which no other ceiling material can match.

SAVES MONEY. Forestone is one of the most practical ceilings a builder can install. It allows you to decorate and sound condition at the same time. In addition, Forestone is easy to install, goes up in a hurry. You save on installation time and eliminate the need for ceiling finishing or painting. You get a handsome, truly unique modern ceiling and create a quiet room all in one simple operation.

CONTROLS SOUND. Forestone's deeply-etched fissures and multi-fibered characteristics absorb up to 70% of all sounds striking it. It quiets the room . . . helps reduce transmission of sound through the ceiling.



DECORATIVE. Soft-white pre-finished surface has a hint of gold in the fissures to add warmth and elegance. Choose from four textures, classic fissured and three exclusive decorative designs. Each may be repainted, if desired, without loss of textured beauty or sound absorption.

FIRE-RESISTANT. All Forestone textures have a special flame-resistant coating conforming to Class C requirements of Federal Specifications SS-A-118b. Exclusive Biotox process also protects against termites, dry rot and mold.

SIZES. Three of the four textures (Forestone, Starlite, Driftwood and Striated) are available in 12" x 12" x 9/16" with flange joint or butt edge. The fourth texture (Forestone Fissured) comes in 12" x 12" x 9/16" flange joint and 12" x 24" x 9/16" flange joint. All are suitable for nailing, stapling, mastic or suspension type installation.

NEW PETITE TILE. A new Walter Dorwin Teague Associates design of tiny perforations in Simpson woodfiber acoustical tile—efficient, economical and unusually attractive. Available in all standard Simpson sizes and thicknesses.

OTHER CEILING PRODUCTS. Simpson also offers a complete range of ceiling products including Forestone tapestry white, standard and random-drilled tile, new Petite pattern tile and variety of roof deck. For complete information on these and other quality Simpson Building Products, call your Simpson dealer or clip and mail the coupon on back.



Save up to $10 per opening with Seven-Eleven ceiling height doors



Here is a ceiling height, hollow core, flush door at a mass-produced price. It creates an air of spacious luxury wherever used in homes, offices and commercial structures.

ELIMINATES OVERHEAD FRAMING. These new doors eliminate costly time-consuming overhead framing in the area where cracks frequently develop above standard doors. Builders report this saves them up to $10 per opening.

JUST TRIM TO FIT. Doors are 7′11″ high and can be end-trimmed as much as 3″ to fit exact height of opening. Exclusive full width solid lock block across entire door allows lockset to be placed where you want it.

MATCHING LIFECLAD FINISHES. Seven-Eleven doors are available in all grained finishes to match Lifeclad Plywood surfaces and also in Rotary Lauan, Rotary Birch and Hardboard (unpainted). Widths, 1′6″ through 3′. Thickness, 1⅜″ and 1¾″.

STANDARD DOORS ALSO. Flush doors in all standard widths, thicknesses and heights are also available in all Lifeclad and regular faces, fully guaranteed by Simpson. All Lifeclad doors are packaged individually in rigid cartons.

SYMPHONIC DOORS. This distinguished new line of doors brings a custom look to any house, yet the cost is small. Each Symphonic® door style is designed to be used throughout the house . . . for entrance, living room, bath, bedroom or den. Thus a custom-type design continuity is carried out in each of the rooms.

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RELY ON Simpson

QUALITY BUILDIN PRODUC

URBAN RENEWAL:

Santa Monica shows how to foul up land disposition, get builders to quit

Last March, Santa Monica got a wealth of proposals for redeveloping 36 acres of choice land along its Pacific Ocean beach, mostly into high rise apartments. The award was to be made on combination of land price, design, economic feasibility and financial responsibility of the bidder. Eleven companies bid for the prize, including most of the biggest names in urban renewal. Bids ranged from $5.8 million to $9.9 million.

But now the project has, in the words of one contestant, "gone to pot." Reason: instead of picking one redeveloper in June as originally intended, Santa Monica officials asked for second bids and proposals from four entrants.

Last month, only one of the four, Reynolds Aluminum Service Co headed by former HHFAdministrator Albert Cole, upped its offer to $9,345,940 on a 52-year lease plan (vs. $6,480,435 for outright purchase before).

The other three refused to bid higher for the land, although some said they would change architectural details. No final award has been made but the whole process has most of the nation's major redevelopers up in arms. They want to know:

What has prompted the city to demand second bids from developers?

Renewal Secretary Russell Priebe of Santa Monica offers three official reasons: 1) plan revisions were needed as a result of architectural and economic feasibility reports plus a change in the city's off-street parking ordinance; 2) FHA would not review all 11 proposals received as originally planned, and 3) the city wanted to get land prices high enough to cover all the city's land acquisition and administrative costs.

But the redevelopers disagree. All three who refused to change their bids—Ben C. Deane, Kern County Land Co-Del Webb, and Perini Corp—offered to provide more parking spaces. Commented Real Estate Editor Lawrence Manzo of the Los Angeles *Examiner*: "It does seem unfair any one has to go to the trouble and expense of resubmitting just because parking ordinances were changed. Or is that the reason?"

Redevelopers make light of the FHA-review alibi because FHA would have to review the building plans for the final project. As for the land prices, three of the original bids would give the city a no-cost project.

Some see in the rebidding a maneuver to give the project to a favored bidder. The rebidding started rumors of job offers and other deals. All are denied. "We had various ideas in mind but these criteria only jelled as we went along," explains Priebe.

"This is a prime example of a community not knowing what it's doing," cries Deane. "Reynolds is a fine firm but if they wanted to give it to them, why didn't they give it to them a year ago? They shouldn't make us the scapegoats for their political aims."

Is rebidding right either legally or morally?

"We were assured repeatedly, before and after submitting our bid to the agency, that the successful redeveloper would be selected on the basis of his original bid," wrote the Kern County Land Co-Del Webb developers. "It is the opinion of our legal counsel that this procedure is improper in principle, discriminatory, and of doubtful legality."

Adds Ben Deane: "If your agency now considers new revised proposals, there is no assurance that a decision will result without further submissions."

Commissioner William Slayton of the Urban Renewal Administration says he is "quite aware of what is going on." And he feels it is perfectly within URA's regulations.

Will redevelopers quit bidding on projects because of the fracas?

Kern-Webb says: "At the very least, we believe that this unexpected step in the procedure can only serve to make responsible organizations hesitant to enter such competitions in the future."

Adds a New York redeveloper: "I wouldn't touch another project like that with a 40-foot pole."

Priebe defends the method. "The competition is the greatest thing in the world. But I would recommend to any agency that they set forth the criteria of judgment, analysis, rating, and selection before the proposals go out to bid."

Will this and other design-price snafus change urban renewal's ground rules?

Most likely, yes. URA sources say they are studying their regulations. Up to now they have permitted wide local discretion, which backfired in some notable instances:

In San Francisco, a stormy competition for the $60 million Golden Gateway job saw an offer of $2 million extra by Kern-Webb tempt city fathers to forget Perini's better design. Perini was finally chosen—after he met the Kern-Webb price.

In Honolulu, the "preliminary" award of Queen Emma project land drew protests against its architectural design. The furor included charges that the Honolulu mayor had visited Las Vegas with one of the backers of the apparent winner. HHFA eventually ordered the project held up and second bids were taken. One syndicate increased its bid from $3.25 to $4/sf and won the project.

The remedy? One architect, who competed in all three cities, suggests that local agencies be required to hire impartial, qualified consultants for judging bids, that the agency establish ground rules for taking bids, that federal officials review all submissions.

Otherwise renewal competitions risk becoming, as Larry Manzo suggests, "a matter of letting a favored redeveloper see what the boys have in their hands so he can trump them." As the rules stand now, what local agencies may do amounts to bid shopping with federal approval.

New York election mixes housing, politics

New York Mayor Robert F. Wagner's successful—though mud-splattered—campaign for renomination illuminates how housing is becoming more and more entwined with big city politics. (Wagner not only won the Democratic primary Sept 7, but he did so by such a big margin that he smashed now-unfriendly political bosses who had put him into office eight years ago, thus achieving the distinction of running—and winning—against his own bumbling record.) Here's how housing figured in the race:

- Echoes arose from the 1954 FHA windfall scandals. Wagner investigators (characterized by opponents as "carrying a whitewash brush in one hand and a hatchet in the other") linked Republican Chairman Frank Kenna of Queens County and State Controller Arthur Levitt, the Democratic organization candidate, to a $2.4 million windfall profit in a 4,000 unit Queens housing project. Kenna got $75,000 for securing an FHA appraisal of $2.7 million for land which cost only $330,000, said Wagner. Kenna denied wrongdoing but promptly quit as party leader. Wagner flayed opponent Levitt for investing over $20 million from a state retirement fund in mortgages on the project. Levitt replied he was "proud" of the investment.
- Wagner, dutifully followed by newspapermen and TV cameras, played volleyball in a West Side slum street where, after 400 Negroes and Puerto Ricans rioted, the city is belatedly pushing neighborhood rehabilitation. Levitt cracked that slum dwellers had bigger problems than "shortages of volleyballs."
- Levitt said Wagner had let middle-income housing construction lag. One project site had been empty for three years and all Wagner built was "a ground-breaking platform and a large sign bearing his name." Wagner retorted that while he was mayor enough housing units went up in New York City to house all of Boston with Denver thrown in.
- Both attacked slumlords. Levitt urged "starving the slumlords out of business" by reassessing property to reflect sale values. Wagner ordered stepped-up building inspections to "take the profit out of slums."

Wagner still must face the Republican candidate, State Attorney General Louis Lefkowitz, in the November general election. But political experts figure one result of Wagner's smashing victory in the housing-dominated primary will be more steam behind subsidized middle-income rental housing in the nation's largest city.

Chicago ends welfare cash for slums

"My department is most unwillingly the largest subsidizer of slums in our community through the rental allowances we make to welfare recipients," says Raymond M. Hilliard, Cook County's director of public aid.

Hilliard estimates that 20,000 of his 104,000 families on relief live in slums. That means a substantial part of the $5.1 million the department pays monthly for rent goes to slumlords.

Hilliard, who says he's wanted to end this situation for years, finally cut off rent checks to slum-dwelling reliefers last month after two flagrant examples came to light.

In one building, dubbed Cockroach Manor by residents, Hilliard found many reliefers among the 323 residents of a building illegally converted from 57 to 106 units. In four other buildings, inspectors cited the widow-owner for 997 violations. They ordered 410 residents to vacate—including 154 welfare recipients paying $5,000 to $6,000 monthly rent.

Cook County thus becomes one of the first welfare agencies to make a direct attack on a situation long admitted and deplored by welfare experts.

No tenants will be evicted under Hilliard's plan. This sidesteps the major obstacle to such reform. When a slumlord goes to court to evict non-paying reliefers, Hilliard's agency will counter by demanding that the court order repairs before the rent is paid.

Pressure to hit slum landlords in the pocketbook is spreading to other cities. Jarred by newspaper disclosures that New York is paying $300 a month for a family of 11 children jammed into a 1½-room flat in a cheap hotel, the city began moving reliefers out of temporary hotel rooms. The city also is compiling a list of slums where welfare families may not live.

NEWS continued on p 66

BUILD BETTER... SELL FASTER...

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Whatever shape your homes take . . . whatever price range they're in, you can offer your customers more living benefits . . . and sell your homes faster, by building Medallion Homes and apartments equipped by General Electric.

General Electric experts will help you design, develop and promote total-electric homes with advanced kitchen designs, lighting, year-round climate control and complete electrical systems for modern, flameless living.

Just look at the variety of homes and apartments on these pages. They were all built to Medallion standards, all equipped for total-electric living by General Electric.

And, they outsold competitive homes and apartments in their neighborhoods.

From coast to coast, the Medallion brings home-searchers in, and the well-known quality of General Electric helps close the sale. Why? Because unmatched application engineering and design assistance—coupled with advertising and merchandising know-how—have been put to work to help builders offer better values that sell faster.

For information, contact your local General Electric Distributor, or write R.M.D.O., Appliance Park, Louisville, Ky.

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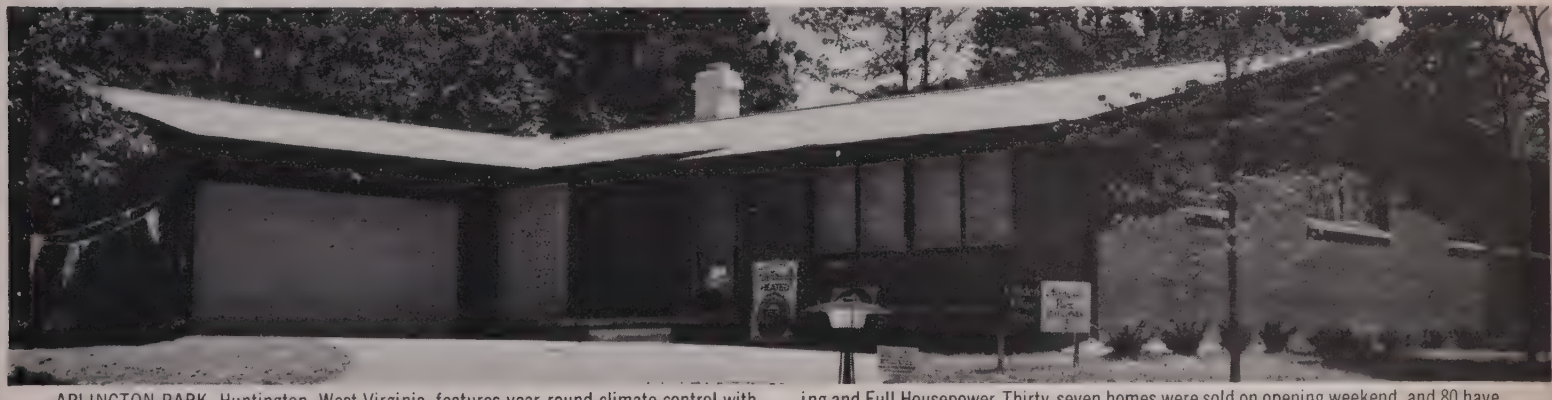
GENERAL ELECTRIC



IMPERIAL POINT, Ft. Lauderdale, Florida, has produced an outstanding sales record in a highly competitive market by merchandising Gold Medallion Homes. Complete electrical systems designed by General Electric, featuring Weathertron heat pumps, electric kitchens, dramatic lighting helped sell over 500 homes in a year.



LEFRAK CITY APARTMENTS (architect's model shown) will bring the many benefits of Medallion living to 25,000 New Yorkers. The Lefrak Organization—world's largest apartment builder-owner—chose a kitchenful of General Electric appliances, plus General Electric air conditioning, lighting and wiring devices.



ARLINGTON PARK, Huntington, West Virginia, features year-round climate control with General Electric Weathertron® heat pumps, plus General Electric Major Appliances, lighting and Full Housepower. Thirty-seven homes were sold on opening weekend, and 80 have now been completed or are under construction.



ROBIN HOOD ESTATES, in Tacoma, Washington, featuring Gold Medallion Homes equipped by General Electric, has outsold all nearby competitors. These homes feature ceiling-cable radiant heat, dramatic Light for Living, Full Housepower and wonderful electric major appliances—all by General Electric.



FIRE-DAMAGED BUILDING totters on Wink's main street. Owner says it is worthless but renewal authority paid generous price for it.

Does the US owe Wink a rescue?

In Wink, Tex. (pop: 1,863), a passing motorist wouldn't be too surprised if he had to swerve to dodge a rattlesnake sunning himself on the pavement. The main street is so run down, Hollywood might reject it as a ghost town set on the grounds nobody would believe it. Born in long gone oil boom days Wink now withers in lonely decrepitude on the parched West Texas plain.

Wink is so clearly moribund that an enterprising Chamber of Commerce member got the bright idea in 1957 that Wink ought to try to get urban renewal aid. Federal men enthusiastically agreed to give Wink $891,868. Wink might become a model for other dying cities, they said.

Winkites went to work. By 187-5 vote they approved a renewal program covering 75 blocks. But small cities like Wink must pay 25% of the cost of renewal, and the town of Wink is poorer than an undeveloped nation. Solution: the school district, gerrymandered to include tax-plump oil wells not inside town borders, is spending $600,000 for new schools (including a 5,000-seat football stadium). Part of this will be credited to Wink's share of the slum clearance. A $25,000 city hall also will be built.

The federal cash assured, Renewal Director Donald McBee, 28, has now bought 11 properties and optioned 92 more. But the first flow of cash into the hands of Winkites has caused townspeople to ask themselves the one question federal officials didn't ask:

Why save Wink at all?

Three of the first 11 property owners are planning to leave town. "A lot of people would have moved out a long time ago, only they didn't have any way to get the money to go," says one merchant. Muses the town's newspaper editor: "I'm just afraid we're going to end up with a well laid-out city but no people."

Photos: Shel Hershorn—Black Star



RENEWAL BACKERS J. A. Scogin (left) and Donald McBee are confident new businesses will come to Wink.

Renewal settlements have been generous.

Druggist Clyde Godfrey points to a precariously sagging store, damaged by fire, that he owned. "On the open market that building wouldn't have brought a penny." He values three other properties he owned at $2,800. Yet Godfrey pocketed $11,700 for the lot from the renewal agency. He plans to sit tight with his largess.

Winkites feel such generosity is right.

"Why shouldn't the government do it for us?" asks Merchant G. I. Young. "They do it for niggers and Puerto Ricans in New York all the time."

Where will the 198 families to be displaced by renewal go? Twenty-four public housing units are already being built. For the others, County Commissioner J. A. Scogin, a renewal backer, has the answer: "They can move into a new FHA house with only $200 down. They'll have more than enough to swing that after we buy their old property."

And who will fill the new business blocks? "They'll come," predicts Scogin. "And the Small Business Administrtation [another federal agency] will finance them."

NEW PUBLIC HOUSING rises from Wink's scrub-grass prairie near a slum shack. Winkites figure public units plus FHA homes will help relocate families.



Four more big companies enter remodeling field

This newest rush by successful corporations testifies to what may grow into a management revolution in the home improvement business.

The newcomers are just getting their feet wet in remodeling now. But their giant resources, plus those of other concerns already firmly entrenched, could in time provide the kind of competition which could drive the suede-shoe operators from this market. The new remodelers:

- Boise Cascade Modernizers, a new division of sprawling Boise Cascade Corp (141 lumber yards in seven Western states). Boise Cascade, under General Manager Lowell O'Connor, is doing a complete rehabilitation job on a home in a Denver neighborhood rehibilitation project. The first house will be a showcase with more improvements than a homeowner normally would do. By pricing each improvement, the company hopes to show owners what they can do with an older house.
- Rock Island Lumber Co (32 lumber yards near Rock Island, Ill.) is starting a similar remodeling division.
- Armstrong Cork has bought the Philadelphia and Allentown operation of Herb Richheimer, flamboyant and successful operator who has lately concentrated on teaching others how to turn home modernizing into a coherent business (NEWS, Dec).
- Consolidated Builders, Canada's largest with a $50 million annual volume, is opening a remodeling department. Initially, it will operate near the company's Toronto base.

But the new entrants are warned anew by Executive Director Julian Levi of the South East Chicago Commission that torpid FHA processing can make profits elusive. "Banks and savings & loan associations are able to decide loan application in a week to ten days," he told an S&L clinic in Chicago. "The FHA district office takes four months."

Some proof of Levi's point: it took Boise Cascade five months to get its first home rehabilitation underway. But the company says the experience gained would let it do the next one in two weeks.

PUBLIC HOUSING:

When do low-rent units switch to middle income?

So bad have vacancies become (7.5% of 6685 units) that the St Louis Housing Authority is campaigning to fill up 500 empty units. St Louis was one of 12 authorities criticized by the General Accounting Office for poor rental practices (NEWS, Sept).

The Authority first raised income limits by 16 to 26%. Limits for a family of three or four persons rose from $3,500 to $4,400. For a family of five, they jumped from $3,900 to $4,900.

In calculating income, the Authority lets families deduct union dues, social security taxes, compulsory insurance, travel expenses, some medical costs, and babysitting costs for working mothers. With these deductions, the St Louis *Globe-Democrat* calculates "it seems reasonable to assume that half of St Louis families make less than $4,900."

Next the Authority sent a booklet advertising its "Best Bargain in Modern Apartments" to 500 St Louis employers. They were asked to tell their workers the Housing Authority now offers apartments to families who could not qualify before.

Instead, Executive Vice President B. C. Vine of the Millers Mutual Insurance Association of Illinois, fired off protesting letters

to Missouri senators: "Thousands of independent American families with less than the income limits mentioned in the attached pamphlet are purchasing their own homes, cutting their own grass, making their own repairs, and paying real estate taxes which in part are used to subsidize other people in government housing. Where is the logic and justice in such a program?

The *Globe-Democrat* chimed in: "When you can hardly give public housing away, it certainly should cause everyone to stop and ask some serious questions. 'How can it [public housing] be made more attractive? Or, do we have too much of it already?' "

In San Francisco's Hunters Point project, two rival juvenile gangs fought a rumble with tire irons, knives, and razors. Occupancy: heavily Negro. The Housing Authority promptly ordered eviction of the families of the trouble-makers. Mayor George Christopher quashed the get-out notices. "Mere eviction is overlooking the basic problems inherent mostly with extremely low-income or under privileged families," said the mayor. But angry residents of the area near the project stormed the mayor's office to protest. Hunters Point, said one, "is the nicest place in San Francisco. Nice view, good weather—but you can't live there." He threatened to get a gun to fend off neighborhood terrorists. "And I'm going to shoot," he warned.

$8,112-a-year families eligible in New York

New York City Housing Authority is increasing its income limits a maximum 42% in one of the first major actions by a local agency after passage of the 1961 Housing Act.

Families earning a maximum $8,112 (or $156 weekly) are now eligible to live in the city's federally aided projects. The new schedule adds $800 to income limits for secondary wage earners in the family and $600 for each minor child, with a maximum increase of $2,400. Limits apply to both admission and continued occupancy. Here are how the schedules compare:

Family Size	Old Limit	New Limit
1	$3,600	$3,600
2	4,320	5,120
3	4,680	6,080
4	4,680	6,680
5 or more	5,712	8,112

PHA says other cities in the nation are now enforcing these income limits for average size families:

Income limits for average-size family July 10, 1961

	Admission	Cont'd occupancy
Chicago*	4,100	5,125
Los Angeles*	3,900	4,875
Philadelphia*	3,650	4,100
Detroit	4,200	5,000
Baltimore*	3,650	4,550
Houston	2,720	3,400
Cleveland	3,400	4,060
Washington, D.C.	3,500	4,350
St. Louis*	4,400	5,300
Milwaukee*	3,800	4,700
San Francisco*	3,900	4,875
Boston*	3,800	5,225
Dallas	3,200	4,125
New Orleans*	3,000	3,750
Pittsburgh, Pa.*	3,600	4,500
Seattle	3,800	4,560
Buffalo*	4,940	6,300
Cincinnati	3,400	4,060
Memphis*	3,200	4,000
Atlanta*	3,200	4,000
Kansas City, Mo.*	3,100	3,875
Newark, N.J.*	4,560	5,700
Louisville*	3,000	3,750
Oakland, Calif.	3,300	4,125
Birmingham, Ala.*	3,600	4,500
Miami	3,000	3,750
Jersey City*	4,700	5,800
Richmond*	2,800	3,500
Tacoma*	3,500	4,375

* Locality also has special admission limits for displaced families which are somewhat higher than those for other families.

Civil Rights Commission demands Presidential order ending race bias

This is the top priority item in a list of recommendations making up the strongest medicine anyone has yet suggested the housing industry swallow on racial bias.

With this plea, the commission*, set up in 1957 to advise Congress and the President on civil rights, gets tougher about the Presidential order it first urged two years ago.

That first plea has been ignored. President Eisenhower did not issue such an order before leaving office in January 1961. President Kennedy promised during his campaign last year that he would sign such an order. He has not done so (News, March) to avoid any stalling of his legislative program in Congress.

Now, the commission, in an open play to force the issue to a head, almost triumphantly harks to the Democratic platform pledge for an executive order. "The need still exists," says the commission bluntly.

The proposed order would crack down on bias by lenders holding 60% of all home loans.

The commission wants the order to apply to the entire range of government agencies concerned with housing and home mortgage credit. Going far beyond just to FHA and VA loans, it would cover:

1. The 4,694 savings and loan associations supervised by the Home Loan Bank Board because they are either federally chartered or members of the Home Loan Bank System. They hold $58.5 billion in non-farm mortgages.

2. All 4,098 savings and loan associations insured by the Federal S&L Insurance Corp.

3. All 4,537 national banks regulated by the Comptroller of the Currency.

4. All 6,174 banks that are members of the Federal Reserve System.

5. All 13,451 commercial and savings banks whose deposits are insured by the Federal Deposit Insurance Corp. They hold $41.8 billion of home mortgages.

Says the commission of these private lenders: "They profit from the benefits that the federal government offers—and on racial grounds deny large numbers of Americans equal housing opportunity. This occurs at all levels of the housing and home finance industries—from the builders and the lender to the real estate broker and often even the local housing authority."



HOUSING: "The one commodity not available on equal terms." This drawing was made to illustrate the quote from the report. But the final report deletes the illustration.

The commission demands a Presidential order "stating the national objective of equal opportunity in housing and specifically directing all federal agencies concerned with housing and home mortgage credit to shape their policies and practices to make the maximum contribution to this goal."

To backstop this Presidential directive, the commission urges the federal government "either by executive or Congressional action, take appropriate measure to require all financial institutions engaged in a mortgage loan business that are supervised by a federal agency to conduct such business on a nondiscriminatory basis, and to direct all relevant federal agencies to devise reasonable and effective implementing procedures."



"AN ALL TOO POPULAR idea of a public housing site," was the caption suggested to the Civil Rights Commission for this drawing. It was omitted from the final report.

FHA, VA, and FNMA would tighten rules for builders and lenders.

The commission demands that FHA and VA *"on a nationwide basis"* insist that builders and developers halt discrimination. A written agreement containing the anti-bias pledge is suggested. This would strike at the practice of some FHA southern offices of letting builders control Negro or white occupancy of homes by the sites they choose.

All three agencies would be directed by the President to "assure nondiscrimination" by lending institutions they deal with. The commission suggests FHA and VA require lenders to agree in writing not to discriminate against the race of borrowers. FNMA would require lenders to certify they follow non-discrimination policies before they become eligible to sell mortgages to FNMA.

The President is also urged to allow FNMA to buy mortgages on open occupancy housing under its more attractive special assistance provisions.

Result: lenders would be under pressure to make loans they consider unsound.

The commission notes that FDIC, the Federal Reserve Board, and Comptroller of Currency "appear to believe this (discrimination) is a private matter with which they are not concerned. All of them (including the HLBB) have expressed the view that race may properly be a consideration in deciding whether to make a real estate loan. The introduction of minority group members in a white neigh-

continued on p 71

* Chairman John A. Hannah, president, Michigan State University; Vice chairman Robert G. Storey, Southwestern Legal Center; Erwin N. Griswold, dean, Harvard University Law School; Rev Theodore M. Hesburgh, president, University of Notre Dame; Spottswood W. Robinson III, dean, Howard School of Law; Robert S. Rankin, Duke University Dept of Political Science, Doyle E. Carlton, George M. Johnson, and John S. Battle resigned during the past two years.



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borhood, they appear to believe, may predictably cause a decline in property values."

This clashes with official views of FHA, VA, FNMA, and the Voluntary Home Mortgage Credit Program. Adds the Commission: "Moreover modern real estate opinion, supported by several studies on the relation of race and property values, tends to cast doubt on the view that the one necessarily affects the other."

HLBB now intends to use examiners to police a new bias ban.

When the Civil Rights Commission started probing the HLBB attitude on race in April, the Board took the first official stand on race bias since it was set up in 1933. It "opposes discrimination, by financial institutions over which it has supervisory authority."

Chairman Joseph P. McMurray of HLBB said the resolution has been sent to all HLBB examiners "for their guidance." "If discrimination were found by examiners," the Commission says, "supervisory action would be taken to abolish it."

FHA, VA, and FNMA are castigated for paying only lip service to integration.

None of these express official opposition to racial integration, says the commission.

Yet "none of them has taken effective steps to insure that the benefits they offer are made available without regard to race." says the Commission.

Both FHA and VA say they will refuse to do business with builders who violate state anti-discrimination laws, but this has "not yet actually been applied in any case," says the commission. This policy also leaves builders in states without anti-bias laws free to discriminate, says the commision.

FHA and VA are also accused of selling homes on which they have foreclosed on a segregated basis. Negro buyers and brokers were rebuffed when they tried to buy FHA-owned homes in Pennsylvania and New Jersey.

The commission notes FHA Commissioner Neal Hardy refuses to move further against segregation without a specific order from the President. "The consequences of FHA's 'no policy' are now legend," asserts the commission. "FHA added impetus and strength to the growth of all-white suburbia."

URA should make greater efforts to rehouse minorities, end bias in new projects.

The commission says only 70% of Negroes forced to move by renewal have moved to standard dwellings, compared to 79% for whites. In many cities the bulk of displacees move to other neighborhoods designated for renewal.

Cleveland suburb bans blockbusting

Last spring Negroes started moving into a southeast Cleveland neighborhood adjoining the suburbs of Shaker Heights and Warrensville Heights. Immediately suburban homeowners started getting repetitious phone calls and mailings urging them to list their homes for sale before the "neighborhood goes all Negro."

Determined to fight the war of nerves, swank Shaker Heights (pop 36,460) has just passed an ordinance making anyone using such blockbusting tactics liable to a $50 fine for the first offense, up to $500 for additional violations. It is now illegal to "incite, arouse, or refer to neighborhood unrest, community tension, racial, religious, or nationality change in a neighborhood, or on a particular street, for the purpose of or in connection with soliciting or inducing or promoting the sale or lease of real estate." Warrensville Heights (pop 10,609) is debating a similar law.

"This is intended to stabilize areas so property values don't collapse."

So says Law Director Walter Kelly Jr. of Shaker Heights. He forecasts that the practical effect will be to cause unethical real estate agents to have second thoughts about such scare tactics, and to give homeowners a ready answer to callers. Kelly says complaints have dropped considerably since debate began on the ordinance.

If the beginning of problem solving is frank discussion, Shaker Heights got a big assist from Cleveland's newspapers.

Before the ordinance passed, the Cleveland *Press* ran a sophisticated series on what blockbusting means to both whites and Negroes in the transitional neighborhood near Shaker Heights. Samples:

- Change began on "Black Sunday" last spring when carloads of Negroes drove through streets, ringing doorbells, and asking if homes were for sale. "A sort of fever came over the street after that," recalled one owner.
- "We got four to six calls a day from real estate men asking if our house was for sale," said another owner.
- "This is the time to sell—while you can still get a top price. . . . You don't want your children playing with colored kids, do you?" went the calls.
- "Who has the time to hunt white buyers at $16,000 when Negro prospects are waiting to pay $17,500 for the same house?" asked a realty company owner. "It would be a waste of time."
- *"I'd fire any salesman who didn't"* [*solicit listings in a changing area*] *said another realty dealer. "But we never go into a street until it has become 15% to 20% colored."*
- "If blockbusting means to buy a home in a white neighborhood through subterfuge, then I guess I'm a blockbuster," said a Negro who used dummy buyers to buy a new $50,000 house on an all-white Shaker Heights street. The boy next door told the Negro's son through the fence: "My daddy says we can stay in this neighborhood if I don't play with you."
- *The whole county will face integration in ten years, forecast the Shaker councilwoman who introduced the blockbusting ordinance. "I wish people wouldn't panic," she said. "The important thing is to have good neighbors, regardless of color."*

Cape Cod Seashore Park to halt builders' march

The new law converting the Lower (ie, farthest out) Cape into a National Seashore Park marks the first time a national park has been created in a prime resort-homebuilding area instead of a wilderness. But backers of the Cape Cod park wanted to keep the dunes, marshes, and woodlands on 26,670 acres inviolate from further development (NEWS, Jan '60).

The park will include 14 miles of shoreline on Cape Cod Bay and the 39-mile Great Beach on the Atlantic Ocean — the beach whose lovely splendor moved Henry Thoreau to observe: "A man may stand there and put all America behind him."

Are building costs heading for more inflation?

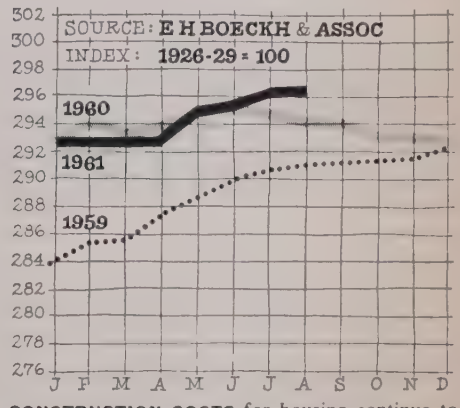
The latest evidence is disquieting:

Cement prices, whose slow price adjustments make them a key long-term indicator, are going up for the first time in two years. One company has increased aluminum siding prices. And fears that an Oct 1 wage increase in the steel industry will produce higher prices, not only in steel but throughout the economy, led President Kennedy to appeal to presidents of 12 steel companies to hold the price line.

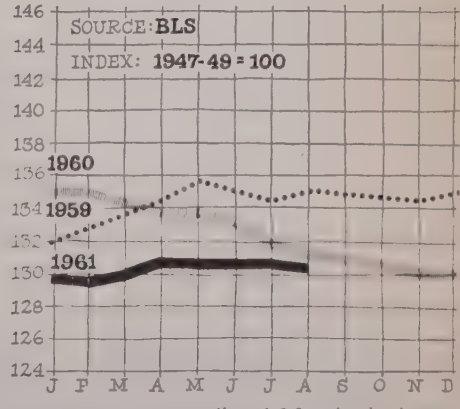
Another straw in the wind: government spending to end the recession practically assures an inflationary budget deficit for the current fiscal year.

"There is worry, and rightfully so, that we could be in for another round of inflation," says Chairman Melvin H. Baker of National Gypsum Co. "My own view is that prices will rise from 2% to 3%." Col E. H. Boeckh, the construction cost specialist, says low housing volume is dampening the total demand for materials. "To sell, manufacturers have been cutting each other's throats," says Boeckh. So built-in wage increases aren't yet driving material prices up. He doesn't expect major price changes until the first of the year, but his construction cost index (*see graph*) now stands at an all-time high. If housing volume improves (as it seems to be), Boeckh foresees a 4% boost for the level of materials prices.

NEWS continued on p 73



CONSTRUCTION COSTS for housing continue to inch upward, rising 0.1 point to 292.3 on the E. H. Boeckh index. Col Boeckh blames increased labor costs for the entire rise, and predicts labor rates—manufacturing may cause more slight increases. Lumber prices have continued weak, says Col Boeckh, because much wood is being replaced by gypsum in housing.



MATERIALS PRICES dipped 0.3 point in August to 130.2. Sagging lumber prices dragged the BLS index down (as they have all year). Producers posted price increases in August (from $64 to $68 for ¼" AD plywood) but weak sales led them to cancel the boost. The price dip in lumber was offset by gains in prices of gypsum (up 2.7 points on its own index) and plumbing equipment. A year ago the index stood at 131.4.



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Former NAHB staffer Canavan set to head technical FHA standards

The likeable **Richard J. Canavan,** 39, will soon return, according to informed sources, after a year and a half absence from Washington to become assistant FHA commissioner for technical standards.

The post is a key spot in housing technology. Local building officials and the nation's four model code groups* look to FHA's technical standards for guidance in deciding whether to accept or reject a new product or construction method. Many manufacturers say FHA approval is essential for successful marketing of a new product.

Canavan worked closely with FHA Commissioner **Neal Hardy** when both were staff members of the Natl Association of Home Builders. Hardy hand-picked Canavan, who would fill the last top vacancy at FHA, and steered his choice through a delicate series of clearances by the Democratic political heirarchy.



BUILDER CANAVAN
New boss for new products

Canavan leaves as general manager of Unibuilt Components Co of Omaha, a subsidiary of Decker Enterprises of Omaha and Phoenix. Canavan joined Unibuilt when it was organized as a maker of roof trusses, walls, and kitchen cabinets in May, 1960.

Before that he served six years as assistant director and director of NAHB's construction department. His work in studying ways to build more efficiently earned him a national reputation as an authority on home design and construction.

Before joining NAHB, Canavan had been technical director of the Producers Council and district manager for both Insulux Division of Owens-Illinois Glass Co and Ingersoll Steel-Borg Warner Corp. He is an architectural engineering graduate of Iowa State College.

MARRIED: **Joseph P. McMurray,** 48, chairman of the Federal Home Loan Bank Board, and **Mrs Rose-Marie Barker,** widow of a Long Island banker, both for the second time, Aug 26 at Garden City, N.Y.

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* Building Officials Conference of America, International Conference of Building Officials, Natl Board of Fire Underwriters, Southern Building Code Congress.

McMurray, onetime (1955-1959) New York State housing commissioner and president of the Queensborough Community College (1959-1961), previously was married to **Isabelle Kenney McMurray,** who died. They had six children. The bride's first husband, **Walter G. Barker,** was president of the Hempstead Bank and a member of the New York State Bank Board.

Searles gets high paying renewal job

"I usually move on to a new challenge after five years on a job," says Detroit-born, Princeton-trained **John R.** (for **Rumney**) **Searles.** "I've been in Washington ten."

Searles' new challenge will be directing Syracuse's private Metropolitan Development Association and taking part in an urban-affairs program at Syracuse University at a salary double the $16,790 he got in Washington.

Searles, 49, became executive director of the District of Columbia Redevelopment Land Agency in 1951 just after it had been created as a semi-autonomous agency by Congress. Under Searles' leadership the agency has increased its staff to 90, now has projects covering 631 acres, has cleared and resold 58 acres for $9.9 million.

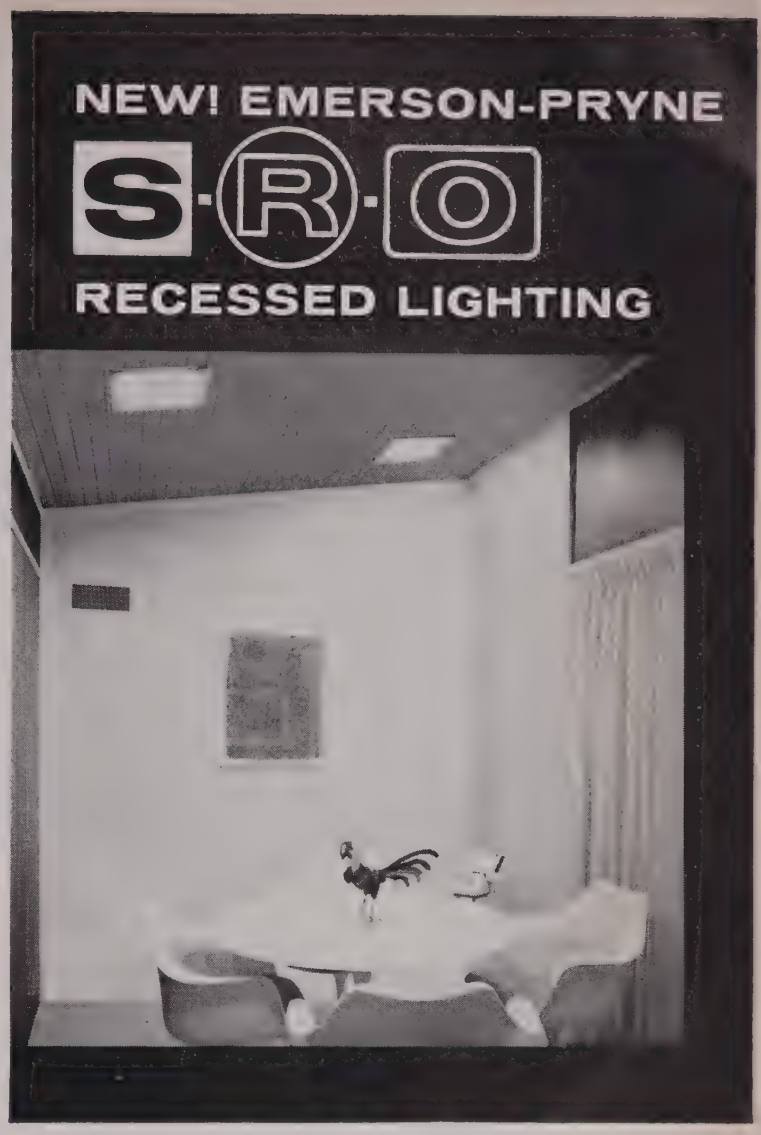
But Searles found himself saddled with an awkward administration with uncertain lines of authority. As a result great patches of Washington's 549-acre Southwest project sprang up in weeds just blocks from the Capitol. Concerned Congressmen pushed a bill through the House last year to halt all district renewal until the Southwest is rebuilt, but the measure died in the Senate.



RENEWAL'S SEARLES
Tempted by twice as much

The bombed-out look held back renting of Southwest's first showpiece apartment, **Jim Scheuer's** 402-unit Capitol Park. But later buildings like Scheuer's townhouses and Webb & Knapp's Town Center (home of HHFAdministrator Weaver) are filling faster. "Searles has an awareness of design and community planning that

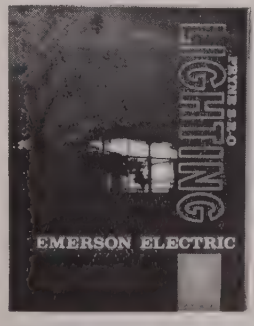
continued on p 74



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will make the Southwest something outstanding in the nation." says one redeveloper.

An Army captain during World War 2, Searles got into housing in 1946 as a municipal economist for the Natl Housing Agency. In five years, he worked up to assistant to the director of URA's forerunner, the division of slum clearance. In 1957 Searle studied European reconstruction for nine months under a Rockefeller public-service award. In 1958 he was president of the Natl Assn of Housing & Redevelopment officials.

His departure, said the Washington *Post & Times Herald*, means the capital loses "the services of a unique combination of planner, builder, and politician who has been the kingpin of the redevelopment program."

Cramer, Halleen named by Natl S&L League

"The savings & loan industry has come of age," observes S&L leader **Floyd Cramer.** "Now it must begin to act like it."

Cramer, president of Washington Heights Federal of New York (assets: $210 million), offers some positive and provocative ideas for what S&Ls should do. As a new major spokesman for the industry, his ideas will command attention. Cramer has just been elected president of the Natl League of Insured Savings Associations, succeeding **Gerrit Vander Ende** of Pacific First Federal, Tacoma. Taking Cramer's place as vice president, and next in line for the top League post: President **Harold Halleen** of Bell S&L: (assets $319 million), Chicago. The League will install its new officers at its annual convention this month.

Walter Daran



NATL LEAGUE'S CRAMER
Prescription for S&Ls

A tall, greying, softspoken 57, Cramer concedes dryly that plumping for his ideas has made him "a pain in the neck" to many of his colleagues. But the S&L industry will run into a stiff challenge in the coming scramble for money to finance an expanding economy, he points out. If S&Ls are to continue to play their key role in housing, some changes are in order. Cramer's views:

The big problem is getting more money. Says he: "We've got to find new ways to get it, and we've got to get the money as cheaply as we can and lend it as cheaply as we can."

S&Ls are paying too much for their deposits now, he contends. "There is a tendency to go along willy nilly, paying whatever competition and other factors dictate. The course of least resistance is to pay more to get depositors' money." Instead of stressing high dividends, says Cramer, S&Ls should put more emphasis on merchandising services. "We must be primarily a service industry rather than just money brokers," he says.

Too few S&Ls make full use of the powers they now have under their charters to offer services to the public. An example of Cramer's thinking is the practice of his own S&L which, in addition to the usual deposit-and-mortgage-loan traffic, offers services ranging from foreign drafts, gift checks, and passbook loans to money orders and safe deposit vaults. "The boys are constantly kicking around ways we can add to the list within our charter," he adds.

S&Ls have remained too oriented to financing suburban houses. So they are not alert enough to the possibilities in financing houses and small apartments in the city, or to remodeling loans. "The trend to the suburbs has slowed down," he says. "A lot of people either prefer to remain in the city or are coming back."

Cramer has just returned from South America where, as a consultant for the International Cooperation Administration, he set up Ecuador's first S&L. This involved not only the S&L itself, but also creating a housing bank (similar to our Home Loan Bank) and writing the enabling legislation. Cramer found he had to add a Latin wrinkle to his project: because of the native fondness for lotteries, a provision was written into the S&L by-laws for a twice-a-year lottery in which every depositor participates.

A New Yorker for 33 years, Cramer still retains a trace of his native Arkansas in his speech. He was born and raised in Smackover. Cramer went to work for a commercial bank in New York in 1931, switched to savings banks, meanwhile attending the American Institute of Banking at night. In 1941 he quit as assistant manager of the Harlem Savings Bank to found Washington Heights Federal. "The thrift and mortgage loan aspects of banking interested me most," he explains.

Chicago Photographers



NATL LEAGUE'S HALLEEN
Next in line for top spot

A golfer when he gets the chance ("I'm lousy, but I like to play"), Cramer is involved in a myriad of civic and philanthropic activities. He calls his business his main hobby. "My wife says I spend 24 hour a day at work." The Cramers live in Larchmont, N.Y. They have one daughter.

Halleen, a native of Nebraska, attended Buena Vista College in Iowa then went into commercial and savings banking until he joined Bell in 1936. In addition to civic activities, Halleen is moderator of the Evangelical Free Church of America, a member of the Chicago Crime Commission, and a member of the Treasury's advisory committee on government securities. He and his wife have a daughter and three sons.

Ezra Stoller



Famed urban renewal team splits up

Renewal Builder **Jim Scheuer** (l) has bought out his partner, **Roger Stevens** (r), in the $12 million Washington Southwest Area B project. Each had a 50% interest in some 1,700 apartments built or under construction there, including the handsome 402-unit Capitol Park Apartmens (H&H, July). The sale was through stock transfer. Both principals declined to reveal the dollar value.

The Washington split completes separation of the Scheuer-Stevens renewal interests. Scheuer bought Stevens' half of Sacramento's Capitol Mall, a $15 million project, a year ago. Scheuer's Renewal & Development Corp is also redeveloping projects in Marin City, Calif., St Louis, and New York City. Stevens' career in real estate includes deals in most major cities, such as forming a syndicate to buy the Empire State Building in 1951 and heading a firm leasing more than half of all first-class office space in downtown Seattle. His major renewal interest now is building a hotel and business center at New Haven's 100% downtown business corner as part of the Church Street project. He has also produced plays *(Tea and Sympathy, Peter Pan)* on Broadway.

A Sec 220 commitment for $6 million issued to Builder **Marvin S. Gilman** last month completes his transition from a builder of single-family homes to sponsor of high-rise apartments in urban renewal areas—a field being invaded more and more by one-family builders.

Gilman and his Renewal Planning Associates Inc, got FHA's go-ahead to build 16-story Sutton Place, first high-rise apartment in a decade in downtown Baltimore. The 300-unit building is in the Mount Royal Plaza renewal area.

Lawyer Gilman, now 39, got into homebuilding after World War 2 in Long Island's booming market. In 1954 he started 200 houses, later expanded to the Washington area. In 1956, he helped organize builders into Long Island Neighborhood Renewals Inc to renovate a 28-family Glen Cove slum (H&H, April '56).

Last month, **Col Hugh Askew** turned 65 and became the first NAHB employe to retire. As head of the association's mortgage department, he was called upon by builders in all parts of the nation to trouble-shoot their FHA problems. And so well did the colonel know how to run an FHA district office that his frank (and unofficial) instructions often nettled politically appointed directors—but solved the problems.

Col Askew learned FHA's ropes as Oklahoma FHA director after World War 2. He pioneered low-cost and cooperative housing in the Southwest so effectively that he was promoted to assistant FHA commissioner in charge of field operations in 1952. He joined NAHB in 1954. He will become a consultant in mortgage finance in Oklahoma.

NEWS continued on p 76

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Nathan Straus, first boss of public housing, dies

The death of **Nathan Straus Jr,** at 72, deprives housing of one of its most consistently controversial critics.

It is 19 years now since Straus resigned after 4½ stormy years as the first head of the federal public housing program. But housing remained his pet cause—and Straus' tongue and pen were as sharp as Pinocchio's nose. Samples of his sometimes penetrating, sometimes preposterous views:

- "The US Housing Authority is so good and so efficient that it should solve our housing problem." (1942)
- "One simple idea is the beginning of wisdom in urban redevelopment. When no more than 25 families live on one acre of land, everyone has plenty of room . . . Yet the lowest density [New York] slum clearers propose is 63 families per acre." (1951)
- "During the postwar years when adequate housing construction might have reduced the shortage, American building enterprise failed." (1952)
- "Every American slum mocks the idea that private enterprise meets the real need for human shelter." (1952)
- "The housing built today, whether for rent or for sale, is beyond the means of two-thirds of the population." (1952)
- "Our present approach [to slum clearance] is crazy. All the recent fuss about Title I, which brought some changes in procedures, makes me think of a fellow who has cancer and they're treating him for dandruff." (1959)
- "It's good business to develop decent, economically sound communities with government aid. That's better than what we're doing now. We're subsidizing slums with relief payments which in turn go to slum landlords." (1959)

Straus grew up under the handicap of being the son of a wealthy man distinguished in business, philanthropy and public life. His father (and his uncle) owned Macy's department store and became part owners of Abraham & Straus in Brooklyn. Nathan Jr was born May 27, 1889 in the family mansion on Manhattan's West 57th st. He interrupted his college career at Princeton for 18 months at Heidelberg University, but returned in 1909 to receive from the hands of Princeton's president, **Woodrow Wilson,** a special degree *cum laude*. "I was enormously influenced by Wilson at college," Straus recalled later. "Wilson was a born rebel. I put him at the top of the list for the 20th century."

Straus' first job was as a reporter on the old New York *Globe,* at $14 a week. He had to leave the *Globe* when his father became ill, and go to work at Macy's. But in 1914 he purchased *Puck,* a humorous weekly magazine and edited it for three years before joining the staff of the Washington *Times.* In 1917 he enlisted in the Navy, working himself up from gob to ensign. After World War 1, he returned to the *Globe* as assistant editor but quit in 1920 because the paper backed **Warren Harding** for president and denounced the League of Nations, which Straus favored.

That year, Straus entered politics as a Democrat, winning a seat in the New York State Senate. While serving there (until 1926), Straus first became interested in housing legislation. In 1933 he organized a limited dividend corporation and built Hillside Homes in the Bronx on a family tract of about 10 blocks to try out some of his housing theories. Straus called the 1,415-unit project "the largest private, medium-priced housing project in the world."

When President **Roosevelt** appointed him as the first administrator of the US Housing Authority in 1937, Straus gave up (as the law demanded) directorship of several businesses and $40,000 a year in salaries for a government stipend of $10,000. He did not give up, as Senate committee questioning



PUBLIC HOUSER STRAUS
Penetrating & preposterous

shortly brought out, ownership of 100′ strip of commercially zoned property fronting Hillside Homes, which had been built with a $4.9 million federal loan and $40,000 of Straus' equity money. Straus explained to the senators that he had sold the rest of his land to the project at very low prices and that allowing private development of adjacent property would encourage private interests to sell land cheaply for public housing.

Almost from the day he took office, his official career was rock-strewn. It started with the virtually public opposition of Interior Secretary **Harold Ickes,** who wanted another man named housing administrator so Ickes could exert more control over the Housing Authority, which was somewhat tenuously under Interior Department supervision. It continued with a headline controversy with Mayor **LaGuardia** of New York City, who complained that Straus held too many "star-gazing" conferences. It gathered momentum when Straus, in a speech, advocated building public housing in the suburbs where land is cheaper, forgetting that the terms of the Wagner Housing Act required demolition of slums at the same time as the construction of subsidized projects.

But Straus got housing built. By the time he resigned in January 1942, some 100,000 families were living in public housing projects, 200,000 slum units had been torn down, and 545 localities had $839 million worth of public housing built or abuilding.

And Straus had brought into the agency some of the men and women who have become public housing leaders for a generation—**Catherine Bauer, Warren Vinton, Leon Keyserling.**

Straus was never popular on Capitol Hill. After 1938, he was unable to wheedle any more money out of Congress, which also kept cutting public housing's operating budget. When defense housing began going up in 1940, Straus geared public housing to defense needs and used up the last of his money. Meanwhile, a $300 million defense housing appropriation bogged down in Congress because of opposition to Straus. Finally, as he put it, Straus decided "to sacrifice myself to save the USHA." His letter of resignation to President Roosevelt called "the ownership and operation of slums one of the largest, most profitable industries in America," and added: "this industry has decreed that the public housing program must stop. Their device is to divorce the housing program for low-income workers in war industries [sic] from the USHA housing program for the low income families of the slums. If this can be done, the housing program now will be considered an emergency war measure to end when the war is over. Meanwhile, the USHA and the 600 local authorities would be allowed to die."

Straus' resignation prevented his prophecy from coming true. Instead, public housing went on to play a big role in wartime construction, which left it a bureaucracy to be reckoned with ever since.

In 1943, Straus plunked down $1,255,000 to buy radio station WMCA in New York City. He was chairman of it when he died in a motel on Long Island Sept 13, apparently of a heart ailment.

He wrote two books, "The Seven Myths of Housing" (1944) and "Two-Thirds of a Nation — A Housing Program" (1952).

Architect Eero Saarinen dies at 51 after brain surgery

When the doctors operated it was too late. A malignant brain tumor ended the versatile career of Architect **Eero Saarinen,** 51, on Sept 1, in Ann Arbor, Mich. His daring experiments with form made some of his work controversial—but it also won him international fame.

Although he was influenced greatly by his father, **Eliel Saarinen,** Finland's top architect, and **Ludwig Mies van der Rohe** ("less is more"), Saarinen was handcuffed to no school, resisted set style and formula. He eschewed the strict functionalism of his elders in the international style, frequently drew on antiquity for inspiration. "We must create," he observed, "but we must bring back some of the great awareness that existed in the past, expressed in our own forms and technology."



ARCHITECT SAARINEN
A modern 'good neighbor'

One of his most remarkable houses, created with Architect **Alex Girard,** harks back in theme to a 16th century Italian villa: a vast central room with individual clusters of separate "houses" for various living functions at each corner, all tied together by a single 100′x120′ roof. The house bore other Saarinen trademarks: a big, sunken entertainment well in the living room, order and uncluttered space though use of built-ins and few walls (*see photo*). Saarinen's own house in Bloomfield Hills, Mich. was a remodeled Victorian farmhouse keeping an antique flavor outside (with Saarinen refinements) but pure modern inside.

Saarinen's precept that a building must have its own look but must also be "a good neighbor" complementing existing structures sometimes irritated purist moderns who favor steel and glass even if it clashes with its surroundings. An example: Saarinen's design for the US embassy in London which is wholly modern but has floor levels and facade spacings keyed to its Georgian neighbors. Said Saarinen: "Always design a thing by considering it in its next larger context—a chair in a room, a room in a house, a house in an environment, an environment in a city plan."

A shaggy, bespectacled man of medium (5′8″) height and an inveterate smoker (mostly pipes),



SAARINEN HOUSE WITH COCKTAIL PIT IN LIVING ROOM

aarinen's casual demeanor masked dedicated appetite for work. He emanded perfection, sometimes ade thousands of drawings of a articular problem until, by exaustive elimination, he hit on the olution he was after (in sketching evations for the embassy, he ould use up to 170′ of tracing aper a night making drawings at ome).

Eero (rhymes with arrow) aarinen (rhymes with far-'n-then) as born in Finland. His father rought the family to the US in 923 when Eero was 12. After raduating from Yale (where he as noted not only for his architctural ability but also his talent r holding liquor and playing ractical jokes) and travelling rough Europe on a fellowship, joined his father's firm which hieved note for designing the 40ilding Cranford Academy of rts in Bloomfield Hills. Eero took er when his father died in 1950 76. His drive and creativeness ade Eero Saarinen & Associates ie of the most sought-after architctural firms in the US. Among ajor monuments to his genuis: e General Motors Technical Cenr at Warren, Mich; the TWA erminal at Idlewild Airport, New ork; Dulles International Airport rminal building near Washington; e auditorium and chapel at Massausetts Institute of Technology; le Jefferson National Expansion emorial now being built at St ouis. He was also consultant for e Air Force Academy at Denver id collaborated on the Lincoln enter for the Performing Arts in ew York.

Saarinen also was noted for his signs (with longtime colleague **Charles Eames**) of organic furniture, fashioned of molded wood. Best known: the "womb" chair. Saarinen also designed chairs and tables on pedestals in an effort to, as he put it, get away from the "slum of furniture legs" in homes.

Saarinen, who became a naturalized citizen in 1940, was divorced from his first wife, **Lillian Swann,** a sculptor, in 1953. They had two children. The next year he married **Aline Bernstein Louchheim,** then associate art editor of the New York *Times*. They have a son, Eames.

DIED: **Albert G. Koch,** 77, Cincinnati builder (more than 1,000 houses) and real estate man, past president of the Home Builders Association of Greater Cincinnati and an NAHB director, Aug 20, at Cincinnati; **Maxwell Smolens,** 74, retired vice president of Albert M. Greenfield Co, giant Philadelphia realty concern, and former board member of Bankers Bond & Mortgage Co., Aug. 26, at Broomall, Pa.; **Charles B. Bennett,** 67, noted municipal planning consultant, twice president of the American Society of Planning Officials, former (1941-54) planning director of Los Angeles and framer of the city's first comprehensive zoning code, former Milwaukee planning director, Sept 7, at Los Angeles; Mortgage Banker **Howard J. Ludington Sr,** 67, president of H. J. Ludington Inc of Rochester, vice president of William L. Pfeiffer Co, New York City mortgage bankers, and former (1958) member of the Voluntary Home Mortgage Credit Program committee, Sept 10, in Rochester.

ANADA:

lore subsidies for loans, grants

e government is throwing anher $500-million into direct lendg under the National Housing ct. This brings to $2 billion the nount of money the government s borrowed from the Treasury back housing.

And Public Works Minister avid Walker says another $100 illion will go to Central Mortge & Housing Corp to help derwrite the cost of municipal wage treatment plants. CMHC so will get $50 million to help ild university residences. Both ese additions double the money itially set aside this year for the o schemes.

The government's aid is to forestall any repeat of last fall's and winter's high unemployment. One reason: federal elections are almost certain for early next year. Another: the government does not want to run out of direct loans for builders as it did three years ago. At the end of July, about $1.35 billion of the $1.5 billion fund set up for direct lending had been committed.

The government is taking a gamble by pumping money into housing, some observers feel. House sales in many areas remain weak and in others are only improving slowly.

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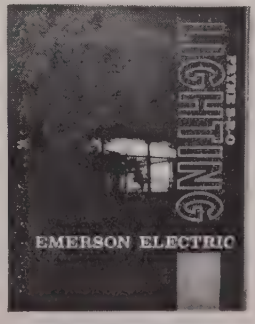
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Letters

Environmental planning

When I recieved my copy of the July issue of HOUSE & HOME, I marked the Round Table discussion on land planning for future reading. At long last I have had a chance to read and digest the report. It is certainly a very interesting and thought provoking one, full of excellent ideas and objectives which, for the most part, seem to be desirable.

As always, the real question is how these goals can be implemented and achieved. Clearly, the delineation of the issues, as the Round Table did, is a step in that direction. And equally clearly, it is only a first step.

Despite the fact that I share with you the realization of the immediacy of the problem, I cannot in candor be optimistic relative to the speed with which effective machinery can be developed to deal with it. Discussions, such as that in the July issue of HOUSE & HOME, should develop support for realistic approaches.

ROBERT C. WEAVER, *HHF Administrator*
Washington, D.C.

. . . Your comments were interesting, worthwhile, and informative. In my observations of city development, I have seen that very little thought is given to environmental planning by the various groups dealing with urban development. . . . I wish to commend you on your approach and hope that you will continue to give thought and study to this matter as there is no doubt that through lack of proper planning and management our urban areas are wasting land.

FELIX K. DHAININ, *landscape architect*
Minneapolis Board of Park Commissioners

Housing Act

I would like to congratulate you for the fabulous job on the interpretation of the Housing Act of 1961 [Aug News]. We made it requisite for all our executives to read as it is the first time we have been able to understand fully the Housing Act in layman's language.

CHARLES ABRAMS, *president*
Richheimer Modernizing Systems Inc
Long Island, N.Y.

Aloha!

I feel like I have been on a trip to Hawaii. Thanks for taking me along [H&H Aug]. My previous impressions of Hawaiian housing were confused.

W. HAMILTON CRAWFORD, *president*
Crawford Corp
Baton Rouge, La.

Success story

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AL MCBRIDE, *realtor*
Redondo Beach, Calif.



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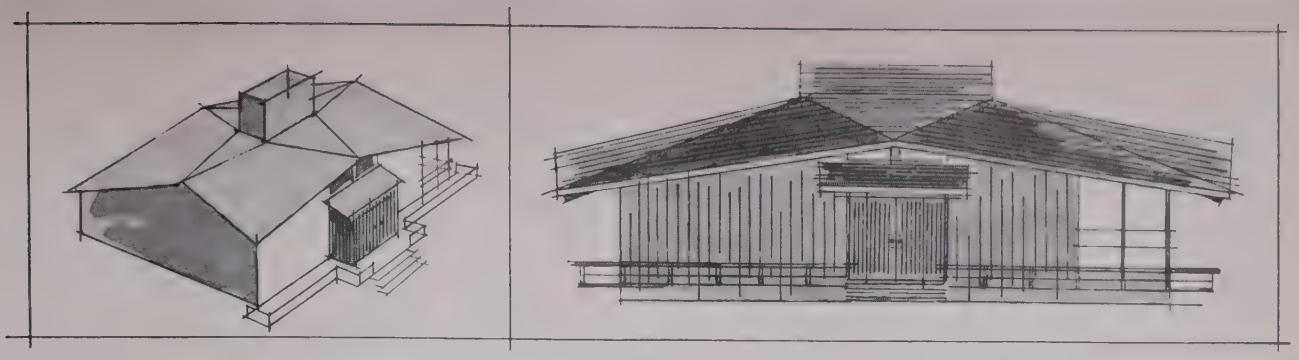
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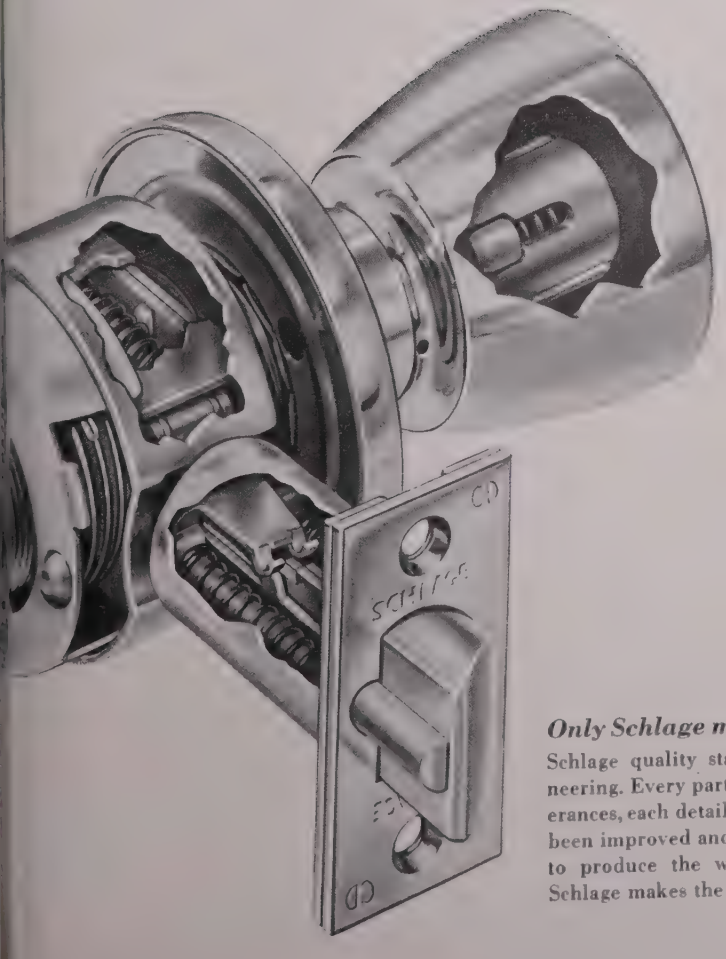
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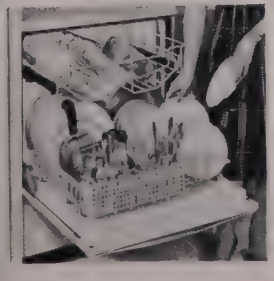
—she can see herself in your home!



Match (if you can!) all the reasons why she'd rather have a new FRIGIDAIRE DISHWASHER

FAMILIAR FRIGIDAIRE QUALITY. Millions of Americans own and like Frigidaire appliances for their design and dependability. These are built-in prospects for *you* . . . when you install and use Frigidaire built-in appliances to help sell your homes. Kitchen Rainbow Colors match other Frigidaire appliances.





ONCE-A-DAY DISHWASHING. Frigidaire Under-counter Dishwashers hold an average full day's dishes for a family of 4 or 132 pieces* plus 15 extra pieces. Homemakers load dishes as they're used, wash once a day and everything's clean and stored.

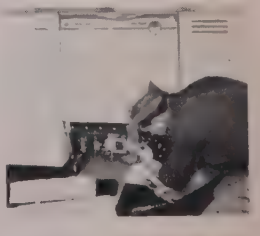
**NEMA Standards*

EASY, FRONT LOADING. Anyone can do it! Roll-To-You Racks pull clear out. It means no top rack to remove or to reach down through. Hostesses can load a Frigidaire dishwasher even in their party dresses!

EXCLUSIVE SWIRLING WATER WASHING ACTION. Many women sometimes doubt a dishwasher's ability to match hand washing for cleanliness and sanitation. Frigidaire's Swirling Water Washing Action lends itself to convincing demonstration. 2400 walls of water per minute seek out—from between the racks—every soiled surface, with water too hot to touch.



EASY TO INSTALL AND SERVICE. Lower panel snaps off easily. Up-front connections for easy access—plumbing at left, wiring at right. Flexible drain connector speeds installation. Accurate floor template helps with rough-in plumbing and wiring.



That Frigidaire Touch!

a touch you love in features
a touch you see in styling
a touch you feel in craftsmanship
a touch you trust in engineering
. . . a touch you'll find only in products bearing this symbol

FRIGIDAIRE DIVISION
GENERAL MOTORS CORPORATION
DAYTON 1, OHIO

Frigidaire factory-trained dealer service everywhere!

For conventional construction or components . . . choose Southern Pine for strength, economy and performance.

For wall framing . . .

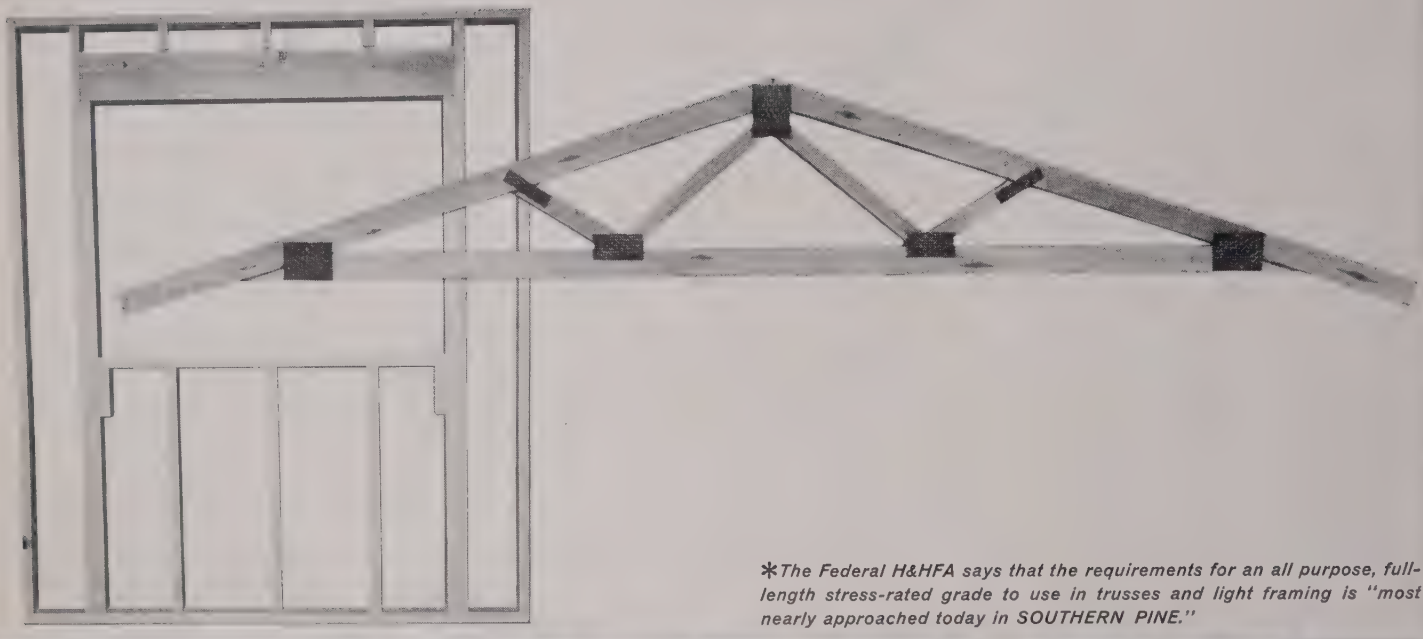
proper seasoning at the mill assures uniform size and stability.

For roof construction . . .

Southern Pine dimension is uniformly graded over its entire length. This permits simple beam, cantilever, continuous or tension loading as required for trussed rafters. These same qualities also apply to conventional rafters and ceiling joist construction.

For joisted floors . . .

the U. S. Forest Products Laboratory, America's foremost authority on wood, in their Technical Bulletin 408 rate Southern Pine tops for hardness, toughness, stiffness, bending strength, and nail-holding power, all requisites for dependable joisted-floor construction.

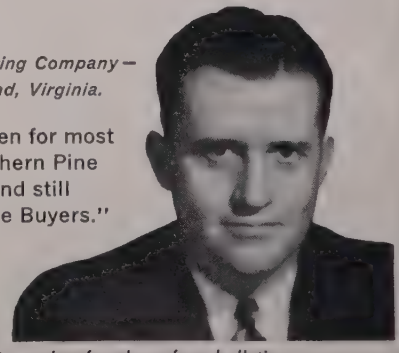


**The Federal H&HFA says that the requirements for an all purpose, full-length stress-rated grade to use in trusses and light framing is "most nearly approached today in SOUTHERN PINE."*

"For quality Miller Homes, we use components built of dependable Southern Pine."

says J. Clifford Miller, Jr., President, Miller Manufacturing Company— Prominent Pre-Crafted Home Manufacturer. Richmond, Virginia.

"For trusses, wall units, and joisted floors . . . even for most of the interior and exterior finish . . . we use Southern Pine exclusively. That way, we save time and money, and still satisfy the most discriminating of our Miller Home Buyers."

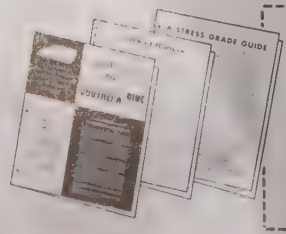


ASK YOUR NEARBY RETAIL LUMBER DEALER FOR GRADE-MARKED, SPA TRADE MARKED

SOUTHERN PINE

It's dry...pre-shrunk...from the mills of Southern Pine Association.

SPA



Write today for these free bulletins:

SOUTHERN PINE ASSOCIATION
P. O. BOX 1170, NEW ORLEANS 4, LA.

Please send the following technical bulletins:

☐ Stress Grade Guide ☐ Trussed Rafter Data
☐ How to Specify Quality Southern Pine

NAME TITLE

FIRM NAME

CITY ZONE STATE



Decorative walls of

CONCRETE GRILLE BLOCK

Newest way to give sales-winning beauty to your homes! For exterior and interior interest, more and more builders are turning to concrete grille block. Available now in hundreds of different patterns, this modern decorative masonry gives a fresh, custom look to accent walls, carport walls, sight and solar screens, and even space dividers. Here's a simple, low-cost way to excite buyer interest. And concrete's easy upkeep and long life are additional sales points. Grille block is one more example of how builders can use modern concrete to give homes that vital extra sales attraction.

For the newest in homes . . .

LIVING CONCRETE

PORTLAND CEMENT ASSOCIATION

. . . a national organization to improve and extend the uses of concrete

watch for

Concrete Industries HORIZON HOMES Program



All the selling points for wood in the den can be seen in this picture, taken from an NLMA advertisement in LIFE. It emphasizes wood's universal appeal, both as a basic building material and as a beautiful, useful, and lasting decoration.

Because wood in the den appeals to men

WOOD sells the rooms that sell the house



The unusual, canted lines of this modern den fit in well with the airy, contemporary appearance of this house. Wood paneling acts as a buffer, adding warmth and charm to the coldness of metal and glass.

A den of wood can make the difference between an ordinary home and an irresistible buy. It's masculine, yet appeals to every member of the family. That's why the den is a builder's asset, the clincher for many a sale. To sell the den that sells the house, there's nothing in the world like wood. Its beamed ceiling looks both strong and handsome. Its paneled walls of wood promise privacy. And, in or out of the den, doors, floors, windows, and built-ins of wood add obvious value to your houses, without adding to their cost. Any or all of the uses of wood will help convince your prospects that the homes you build were designed for them to *live* in.

Does the illustration on your left look familiar? It should, because it appeared as a full-page, full-color NLMA advertisement in LIFE not long ago. Millions of people—your prospects among them—saw it. They will be looking for wood in the dens you show them. For more information on better homes of wood, write:

NATIONAL LUMBER MANUFACTURERS ASSOCIATION
Wood Information Center, 1319 18th St., N.W., Washington 6, D. C.

nlma

Built of **wood** *means built to sell*



The natural warmth of wood and its compatibility with other building materials highlights this unusual den. The paneled walls and ceiling, the rustic shelf and the matching settees make an inviting, comfortable setting.

Tomorrow's window

MODERN! WABASH

VISTA



DISTINCTIVE VISTARAMA CASEMENT WINDOWS—*with exclusive Vistarama removable framed grids. Slimlined elegance combined with a smart decorator touch.*

YEARS AHEAD of all other windows, Vistarama leads in design, engineering and construction. Quality craftsmanship combines with "new" features to make Wabash Vistarama the wo[rd] on sight.

The Wabash Vistarama line, w[ith] its new [styl]ing, offers you windo[w] y room. Not shown al[ow]s . . . versatile u[p]ings; can be used a[s] as economy caseme[nt]

Vistaview Picture Windows combine with any ventilating unit in charming combinations.

All Wabash Vistarama units are crafted of preservative-treated Ponderosa Pine . . . backed by 75 years of Wabash woodworking skill. Get all the facts on this modern line of quality wood windows—learn how you can fit Wabash Vistarama Windows into your [pl]ans for fall starts, and to remodeling projects. [No]w adaptable these units are to a variety of [de]signs you'll find prospective home buyers will appre[ci]ate the extra quality of Wabash Vistarama Windows.

features...here today!

RAMA

WOOD WINDOWS



MODERN VISTARAMA PICTURE-AWNING WINDOW—*for a picture view and fresh air, too. Fixed upper sash, ventilating lower sash in a single Vistarama unit.*

Typical Vistarama advanced design features:

MORE WEATHER-TIGHT—neoprene weatherstrip, applied to the frame for tighter seal. Retains flexibility at temperature extremes; will not deteriorate.

RIGID CONSTRUCTION—assures permanently square frames. Glued and pinned slot and tenon construction.

WOOD BEAD GLAZING—glass set in glazing compound; anchored with attractive wood stops. Tighter seal; faster and easier to reglaze.

WABASH VISTARAMA

VISTARAMA

WINDOW UNITS

WHERE TO BUY

Wabash Vistarama Windows are sold through reputable millwork jobbers and lumber dealers in your area. For the name of your nearest jobber or dealer, write WABASH VISTARAMA at the address below.

WABASH VISTARAMA IS THE REGISTERED TRADE NAME OF

THE WABASH SCREEN DOOR COMPANY 1217 Florida Street • Memphis 6, Tennessee


DOOR TO STREET
14'X20'
GARAGE
DOOR TO PATIO
KITCHEN
LIVING ROOM
DINING AREA

This **extra door** opens all this **extra living** space ...

and **new sales opportunity for you!**

it's the New Convertible-Garage-Room

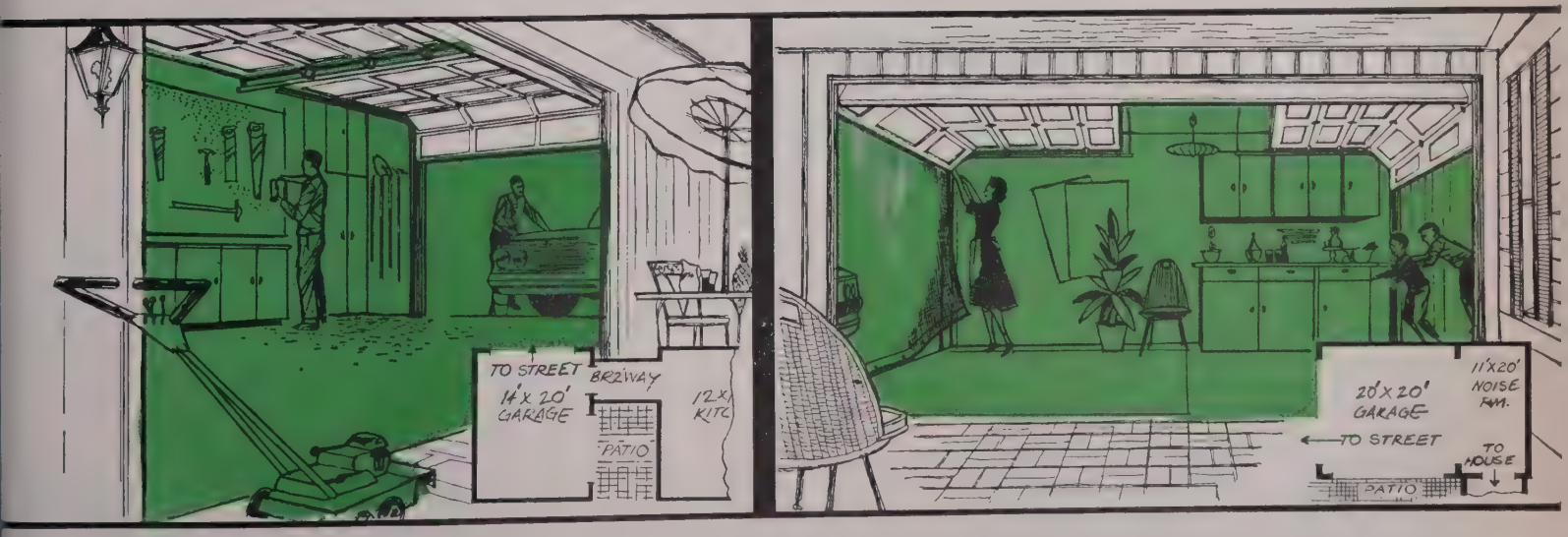
by OVERHEAD DOOR CORPORATION

Now as little as $50 extra builds your biggest bargain in space—a garage that converts for living! By matching the "OVERHEAD DOOR" in the front of the garage with another in the back, you create a "Convertible-Garage-Room" with many appealing uses.

Look at the extra sales appeal you add to your homes when you offer this extra space your prospects want and need! The extra space can be play space—a comfortable breezeway extension to a rear patio, an ideal place for children's games. It can be work space—a bright, well-ventilated shop for work or hobbies. And it can be even handier storage space than the ordinary garage because the extra door opens wider access to the back yard.

Yet a "Convertible-Garage-Room" costs as little as $50 more. Labor and materials saved in the backwall make up most—sometimes all—the cost of the extra door. Also, you get increased evaluation for your homes.

The "Convertible-Garage-Room" idea is a contribution to home selling by Overhead Door Corporation, maker of the original "OVERHEAD DOOR"—the easy-rolling sectional door that opens and closes without argument. It's the door that's guaranteed by the reliable factory-trained expert who installs it—your local "OVERHEAD DOOR" distributor. See him soon . . . and see the exciting sales tools he offers you FREE to help you make the most of this sales-promoting idea. Find his name listed under "OVERHEAD DOOR" in the white pages of your phone book. Or write Overhead Door Corporation, Dept. HH-110, Hartford City, Indiana.



Doors front and side can give you a "Convertible-Garage-Room," too. It's an ideal application for an attached garage-breezeway, as shown in this floor plan. Cabinets along the walls provide attractive, organized storage space. Notice how the side "OVERHEAD DOOR" opens wide access to the back yard for the lawnmower and bulky equipment.

This garage converts *three* ways. It absorbs the overflow from an expandable teen-age "noise room" at the rear of the house, through a back "OVERHEAD DOOR." It opens to an adjacent patio through a side door and lets the car in through the front door. The giant fiber-glass insect screen shown on the front door is available from your "OVERHEAD DOOR" distributor.

"Street-side" door of the garage (at rear in this picture) can be closed to provide privacy. With the back wall opened by the extra door, the garage becomes an extension to the patio in the foreground. A variety of glass-paneled, wood-paneled, and flush-panel "OVERHEAD DOORS" is available.

THE "OVERHEAD DOOR" TRADE MARK *the original upward-acting sectional door, made only by*

OVERHEAD DOOR CORPORATION

General Office: Hartford City, Ind. **Manufacturing Distributors:** Dallas, Tex.; Portland, Ore.; Cortland, N.Y.; Hillside, N.J.; Lewistown, Pa.; Nashua, N.H. **In Canada:** Oakville, Ontario.


Gold Bond announces
a new weapon against
rising construction
costs...
spiral
core
GYPSUM
PARTITION
PANELS



Again, from Gold Bond,

a triumph of research and development—SPIRAL-CORE! This new timesaving, cost-cutting product will play a big role in the coming panelization revolution in home-building construction . . . *with no reduction in quality.*

The backbone of each panel is lightweight, but sturdy, hardwood spirals. The exterior surfaces are tough gypsum wallboard. Bonded together in large 4′ x 8′ panels, they go up fast, save space, save money.

WITH SPIRAL-CORE it takes only a few hours to erect *all* the interior, non-bearing partitions in an average-size house. Older methods, using wood studs, took up to two days.

SPIRAL-CORE SAVES SPACE. The panels are only 2⅜″ thick. Conventional walls, using 2″ x 4″ wood studs, are 4⅝″ to 5″ thick. Saves up to 33 sq. ft. of floor space in an average-size house — enough space for an extra closet or lavatory.

STRONG IMPACT RESISTANCE. The force of a 250-lb. professional football player smashing against a test installation didn't break through or even tear it loose.

LOW RESONANCE. Thump it. Rap it hard. Sound doesn't "drum" . . . the solid sound of quality bounces back.

WIRING EASILY ROUTED. Ram the wood spiral core with conduit or cable—it's easily pierced. Wiring becomes a simple matter with these prefabricated wall panels.

SPIRAL-CORE is another in a long line of quality developments from National Gypsum Company designed to hold down building costs. For sample and technical information, see your Gold Bond® Representative, or write to Dept. HH-101.

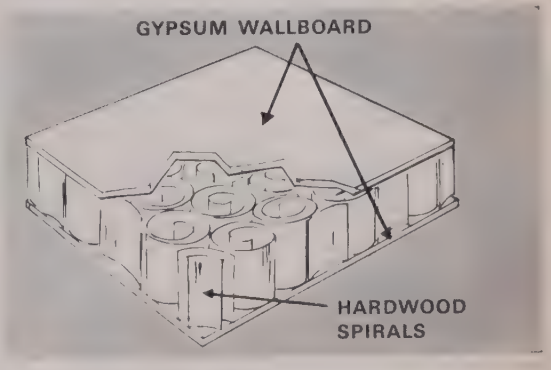
Present distribution of SPIRAL-CORE is limited to southeastern and southwestern U.S.A. — in the economical shipping area of our New Orleans plant. More extensive distribution to be announced in the near future.

Gold Bond
BUILDING PRODUCTS

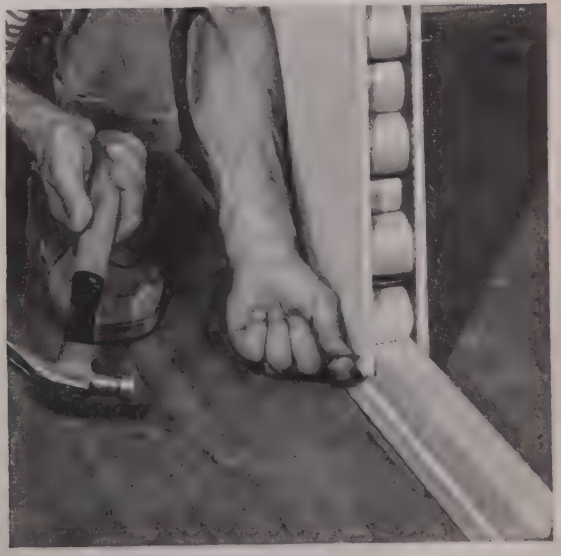
NATIONAL GYPSUM COMPANY
Buffalo 13, New York



IN PLACE FAST. Two men can easily put panels in place. Top is secured by nailing through corner bead into wood spline in panel.



NAIL PANELS AT BASE. Regular wallboard nails secure panels at base that is formed of standard dimensional lumber.





ONE MILLION IN NEW HOME SALES

That's big business in any builder's bailiwick. And any manufacturer's, too. What made it possible?

The fact that he used and promoted products bearing the Good Housekeeping Guaranty Seal!

Here's what Charley Huber of Huber Homes, Inc. in Dayton wrote us:

"In the first two weeks of promotion on our receipt of the Good Housekeeping Citation, we have experienced over one million dollars in new home sales. Our homes now feature products that have earned the Good Housekeeping Guaranty Seal. The Citation has added to our homes an endorsement and prestige impossible to duplicate."

Other enthusiastic builders write:

". . . enjoyed a terrific sales response since we opened to the public Sunday. As you know, the homes start at $40,000. On the opening day we sold six homes, two on Monday, and two today." (Encino Hills—Sherman Oaks, Calif.)

". . . an excess of $500,000 worth of homes by following weekend." (Concord Homes, Inc.—St. Louis)

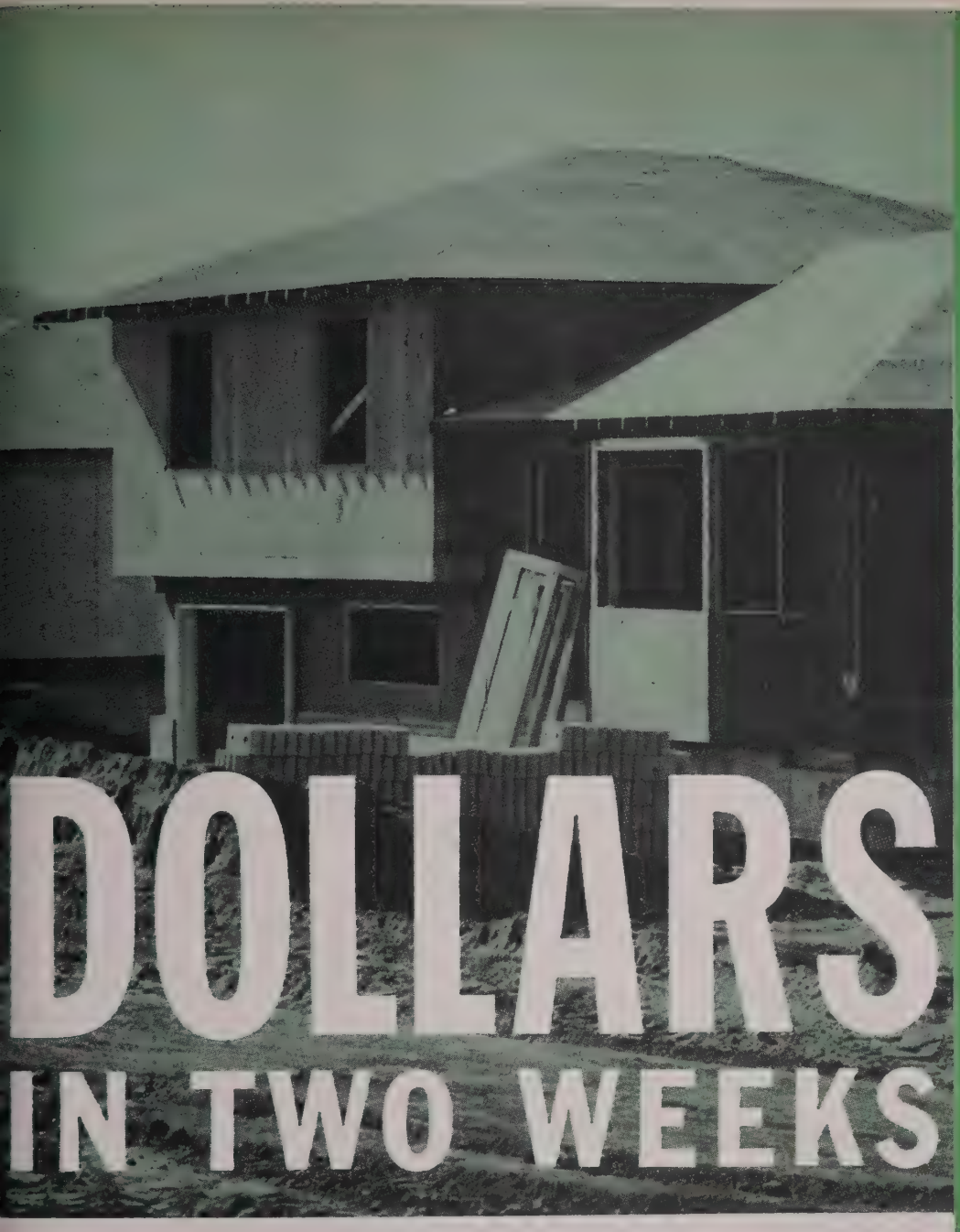
"In a slow market which presently exists, our sales have been phenomenal." (Creative Builders—Newton Highlands, Mass.)

As the Good Housekeeping Citation Program expands, so does the file of glowing letters from participants. There's no other home building program like it. No other home building program . . .

. . . gives the prospective home purchasers such true assurance that the biggest investment of their lives will be the best.

. . . gives top-level builders the tremendous sales advantage of credibility to their own claims of quality and value.

. . . gives manufacturers of building products, equipment and appliances who have earned the Good Housekeeping Consumers' Guaranty a built-in avenue to mass sales.



DOLLARS IN TWO WEEKS

As with the Good Housekeeping Guaranty Seal, the Citation is given to no one—*the builder who has it earns it!* His ethics, standards, finished product are thoroughly appraised by the Good Housekeeping Building Forum. The builder agrees to buy and feature by brand name products that have earned the Good Housekeeping Guaranty Seal. *And use them he does!* In quantities that would make any manufacturer delighted.

TO MANUFACTURERS . . . TO BUILDERS . . . who would like to participate in Good Housekeeping's Citation Program, write or call Calvin Herge, Advertising Director, 959 8th Ave., N. Y. 19.

REPLACEMENT OR REFUND OF MONEY
Guaranteed by Good Housekeeping
IF NOT AS ADVERTISED THEREIN

Good Housekeeping

Magazine and Institute / A Hearst Magazine

THESE LEADING BUILDERS WHO HAVE JOINED THE GOOD HOUSEKEEPING CITATION PROGRAM WILL BUILD MORE THAN 12,000 HOMES THIS YEAR— WITH A TOTAL VALUE OF MORE THAN $300 MILLION

Bell & Valdez
Seattle, Wash.

Bollinger & Martin
Louisville & Lexington, Ky.

Brown & Kauffmann
San Francisco Bay area

Concord Homes, Inc.
Missouri & Illinois

Creative Builders
Boston, Mass.

Edgewater Homes
San Diego, Calif.

F. & R. Builders
Florida

Fischer & Frichtel, Inc.
St. Louis & Kansas City

Fox & Jacobs
Dallas, Texas

Harlan Lee-Royal Homes
Los Angeles area

Huber Homes
Dayton, Cincinnati & Columbus

Levitt & Sons Inc.
Northeast U.S.

Lincoln Builders
Northern California

Lindy Brothers
Philadelphia, Pa.

Perl-Mack Construction Co.
Denver, Colo.

Staggs-Bilt Homes
Arizona

United Homes
Tacoma & Olympia, Wash.

AND FROM ROOFTOP TO BASEMENT, THEY'LL FEATURE PRODUCTS THAT HAVE EARNED THE GOOD HOUSEKEEPING GUARANTY SEAL . . . . . IN MANY THOUSANDS OF NEW HOUSES . . . IN THEIR OWN ADVERTISING AND PROMOTION BY BRAND NAMES.

ARE YOUR BRANDS AMONG THEM?

YOUR GREATEST ASSET IS OUR QUALITY PERFORMANCE!

This time it's RCA WHIRLPOOL

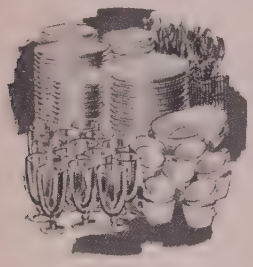
after rigid lab tests

Prospective home buyers by the thousands look to *McCall's Magazine* for ideas on how to make their dream houses more livable, base many a buying decision on a *McCall's* recommendation. That's why the *McCall's* Laboratory and Use Tested Tag on the new RCA WHIRLPOOL Imperial model undercounter dishwasher represents powerful sales help for you.

Here's what the tag says: "*We tested* this large family undercounter dishwasher by loading it time after time with china, plasticware, glassware, silver, pans and utensils soiled with every type of food . . . *We found* that everything came out of the dishwasher clean, sparkling and dry without scraping or rinsing . . . The READY-RINSE is wonderful for 'dusting off' seldom-used dinner service and the PLATE WARMER for heating plates and platters".

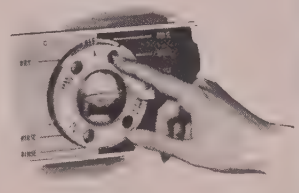
You can bank on it that homemakers will be favorably inclined toward a kitchen with an RCA WHIRLPOOL Imperial model undercounter dishwasher. And since it's no secret that women are frequently sold or unsold on a home by the kitchen, it stands to reason you have a big sales advantage when *your* kitchen is the one equipped with *McCall's*-endorsed RCA WHIRLPOOL dishwasher. For the complete story on all the RCA WHIRLPOOL home appliances available to help you build more sell into your homes, contact our Contracts Sales Division.

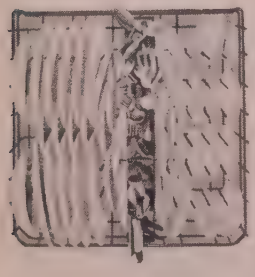
"We especially liked these features," says McCall's



Washes silver, dishes and glassware beautifully without pretreatment. Adds rinse conditioner for spotless drying, too.

Dial-A-Cycle* control mounted at top of door is convenient to use, operates all four cycles . . . NORMAL, SHORT, READY-RINSE* and PLATE WARMER.

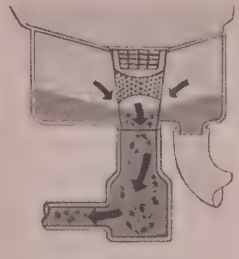




"Random-Loading" vinyl-coated racks are easy to load. Front door opens wide and racks glide out and in smoothly.

Filter-Stream* washing action collects solid food particles and automatically flushes them down the drain.

*Tmk.



New RCA WHIRLPOOL Imperial model food waste disposer



Model SHD-31

is also McCall's endorsed . . . builds still more value into your kitchens. Among the homemaker-wanted features of the RCA WHIRLPOOL disposer endorsed by McCall's are: Automatic reversing action designed to free trapped items instantly. Big 1½-quart capacity batch feed. Handy cover control. Easy to install, it has a built-in dishwasher connection to permit use of common drain.

Whirlpool CORPORATION

ADMINISTRATIVE CENTER, BENTON HARBOR, MICHIGAN

Manufacturer of RCA WHIRLPOOL Automatic Washers • Wringer Washers • Dryers • Washer-Dryers • Refrigerators • Freezers Ice Cube Makers • Ranges • Air Conditioners • Dishwashers • Food Waste Disposers • Dehumidifiers • Vacuum Cleaners.

Use of trademarks ® and RCA authorized by trademark owner Radio Corporation of America

McCall's endorsing built-in dishwashers



PELLA PRODUCTS

THE FOCAL POINT OF QUALITY



FREEMONT UNION HIGH SCHOOL, SUNNYVALE, CALIFORNIA
ARCHITECTS: MASTEN, HURD AND GWATHMEY
BUILDER: FRIETAS CONSTRUCTION COMPANY

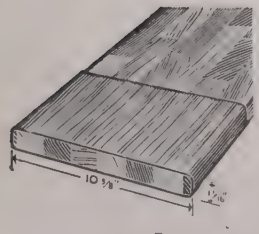
Pella

wood folding partitions

provide walls that "get out of the way"

Wherever a single floor area must serve two or more activity groups, there's a place for heavy-duty PELLA WOOD FOLDING PARTITIONS. Besides solving fast-changing space division problems, these handsome partitions also lend rich interior beauty to schools, churches, offices, clubs and restaurants. Massive panel dimensions of 10⅜" x 1⅛" emphasize the natural grains of 6 genuine wood veneers. Laminated stable core construction permanently prevents warping. Patented "live-action" hinging maintains panel alignment. For any opening width and heights up to 20'—1". Call the PELLA distributor listed in the classified section of your telephone directory or mail coupon.

6 Fine Wood Veneers • ASH • OAK • PHILIPPINE MAHOGANY • AMERICAN WALNUT • BIRCH • PINE



SOLID WOOD BLOCK CORE

of each panel is laminated with water-resistant plastic glue and faced with genuine wood veneer.

THIS COUPON ANSWERED WITHIN 24 HOURS

PELLA ALSO MAKES QUALITY WOOD FOLDING DOORS, WOOD SLIDING GLASS DOORS, WOOD CASEMENT AND MULTI-PURPOSE WINDOWS AND ROLSCREENS

ROLSCREEN COMPANY, Dept. MB-50, Pella, Iowa

Please send details on PELLA WOOD FOLDING PARTITIONS

Name _____

Address _____

City & Zone _____ State _____



Youngstown Kitchens

IN WOOD

The most saleable name in popularly priced



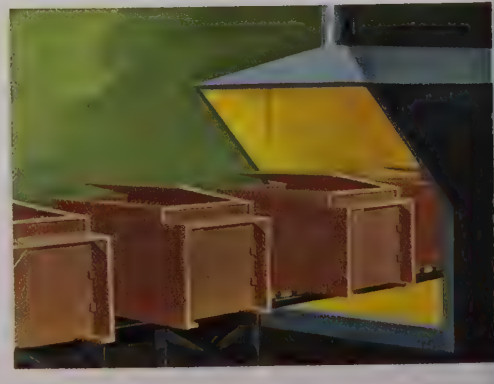


Rugg
with fu
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both glued and
are used extensively. S



All top-grad
Youngstown
wood through
used. All wood
anced construction

new
all-
are
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Lustrous Cinnamon-Maple finish—Beautiful, durable finish is applied in six separate steps: first, a toner, then vinyl sealer is applied and oven-dried at 125°; sanding; lacquering; and a final oven-drying to set and harden the rich, deep-tone finish.

kitchens now brings you kitchens IN WOOD!



Beautiful maple...
rich cinnamon finish!
Superb craftsmanship...
backed by the famous
Youngstown Kitchens name

Look it over. It's the kind of kitchen only a nationally famous manufacturer like Youngstown Kitchens could give you in this price range.

It's all hardwood . . . crafted and constructed like the finest furniture. Timeless styling. Clean, elegant lines. Deep, durable Cinnamon-Maple finish. True quality features and fixtures throughout.

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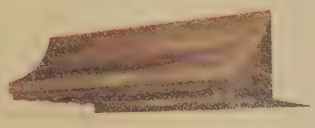
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Youngstown Kitchens



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OCTOBER 1961

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House & Home

THE INDUSTRIAL REVOLUTION IN HOUSING

2nd PROGRESS REPORT 1961

New methods, new products, new tools to build better for less

No other big industry is developing so many new ways to offer a better product for less money page 104

These new and better ways make it all the more important for you to follow the 23 sound old rules on how to design and detail to build better for less page 108

And they now make it necessary for you to follow eight new rules for better building page 118

To make these rules work, the manufacturers of building products and the inventors of building techniques have come up with new ways to build every part of the house better for less page 133

You'll find the better-for-less news about crawl space on p 134, about flooring on p 136, about partitions on p 138, about exterior panels on p 140, about studs on p 141, about wall skins on p 142, about drywall on p 144, about trusses on p 146, about roofs on p 148, about attic vents on p 150, about ceilings on p 154, about brick on p 156, about 2-story houses on p 158, about bathrooms on p 160, about heating and air conditioning on p 169, about wiring on p 172, about doors on p 174, about windows on p 176.

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Design: H&H staff. Photo: Phil Shapiro

COMING NEXT MONTH

Ninth annual report on prefabrication
Winning entries in the 1961 Interiors for Better Living Awards program
Portfolio of five distinguished custom houses



Homebuilding used to be called backward and unprogressive, but now...

This issue of HOUSE & HOME was developed in collaboration with the Lumber Dealers Research Council, whose research director is Raymon T. Harrell and the Research Institute of the National Association of Homebuilders, whose research director is Ralph J. Johnson. It was written in collaboration with Homebuilding's No. 1 construction expert, James T. Lendrum, AIA.



No other big industry is developing so many new ways to cut its costs for a better and better product

One reason why change is coming so fast in homebuilding today is that change came so slowly yesterday. Homebuilding was last of the great industries to enter the industrial revolution, so now it is making up for lost time. But a . . .

Second big reason is that homebuilding is the last great stronghold of small business and free competition, with thousands of competing builders, thousands of competing suppliers, and thousands of competing architects and designers all thinking up and trying out new ways to design and build better for less.

So today there is a new and better product, a new and better tool, or a new and better method to do almost everything except roofing. Change is coming faster and faster as more and more manufacturers get into the act and more and more new components and new materials start fighting for a share in this biggest-of-all markets. Change is coming fastest in this year's sharp competitive squeeze.

Consider, for example, how these changes just since 1958 can change what kind of houses you will plan and what those houses will cost:

New steel and plywood combinations make hardwood floors cheap as slabs (see *p 134*);
New six-in-one sandwiches cut wall-construction time in half (see *p 140*);
New bathroom systems permit two better baths for less than most builders pay for one (see *p 158*);
New adhesives promise brick bearing walls cheap as yesterday's veneer (see *p 156*);
New add-on packages make air conditioning a bargain hard-to-beat (see *p 169*);
New devices make better wiring cost less than poor (see *p 173*);
New quick-drying plasters cut drywall finishing time two-thirds (see *p 144*);
New direct-burial cables and methods cut underground wiring costs in half (see *p 172*)
New trucks and lifts turn the economics of where-to-do-what upside down and double the importance of "building with parts instead of pieces" (see *p 122*);
New doors cut closet and hallway costs a third (see *p 174*);

What these changes add up to is this: The three years since 1958 have seen an enormous advance in the industrialization of homebuilding; and any house

built today relying only on yesterday's products, yesterday's tools, and yesterday's methods will be obsolescent before it is built—and it will cost too much.

Builders who know and use all today's more efficient tools and products and methods are building better houses for less than their 1952 costs, despite the 60% rise in building-trades wages. (Bill Levitt, for example, asks less per square foot for his 1961 homes than he got for his 1948 houses. So does Andy Place—and he throws in double glazing throughout, plus twice as much insulation, plus 100-amp wiring, plus an extra half bath, plus redwood siding, plus a ten-year water heater, plus many other extras.)

But progress has come so fast that . . .

Too few builders know and cash in on all these many new ways to build better for less

Too few architects design for the new products. Too few dealers stock and push them. Too few subcontractors will use them. Too few appraisers recognize them. Too few lenders insist on them. Too few realtors sell them. This can't go on because. . .

. . . . . Today nobody but nobody in our industry can afford to pass up these new ways to cut costs and raise values.

. . . . . New houses cost much more than they need to cost, more than most buyers are ready to pay.

. . . . . Homebuilding will not boom again until our industry prices its product back into the market by offering much more tempting homes at much more tempting prices.

The housing shortage is over. The necessity is gone. Nearly three million existing homes are vacant, so hardly anybody anywhere needs to buy a new home unless he wants to. Even Miami had 13,461 used homes for sale in June—enough to meet all Miami's growth needs until 1964! If that is true of America's fastest-growing metropolis, how much truer must it be where growth is lagging!

Easy money will not bring back our boom; we have had easy money all this year. Easier terms for cheap houses will help only marginal buyers; they mean little or nothing to the ten million families who could afford right now to trade up to much better homes—ten million families whose present equities top $70 billion they could use for down payments, ten million families who now choose to sit tight where they are because we have so far failed to offer them tempting-enough buying appeals at tempting-enough prices.

From city after city, our roving editors bring back the same report: *There is nothing wrong with the housing market that better homes at better prices would not cure.* Bill Levitt sold out a year ahead when he offered Washington 1,850 sq ft fully equipped, fully air conditioned, fully insulated, and fully landscaped for $17,500. In hard-pressed South Bend, Andy Place is almost outselling all other builders combined by offering top quality in 1,280 sq ft for $10,770 plus lot. Outside Cleveland Bob Schmitt is having his best sales ever

Just when we need them most, manufacturers are giving us the new products, the new tools, the new equipment to build much better for less; the smartest builders, architects, and dealers are showing us much better ways to use them.

How many new homes we build and sell in 1962 and how many new homes we build and sell in 1963 will depend mostly on how fast how many of us adopt and cash in on these new products, new tools, and new methods. They are doubly important to small builders, because small builders get squeezed hardest when sales are slow. And these new factory-made components offer small builders their only chance to get in on the economies of bigness and quantity production.

So this issue of HOUSE & HOME is dedicated

to the Architects of America

to update them on all the new economies and efficiencies of today's component-assembled house, to help them collaborate more knowingly with the builders and play a bigger part in providing better homes for millions of Americans, to help them serve the great and growing new market for their professional skills and talents in the $16 billion-a-year business of building houses for sale.

to the Builders of America

to help them cut their costs at least $1,000 a house by helping them cash in on the savings today's new tools and new components make possible, to help them take better advantage of the help their dealers and suppliers can offer, to help them squeeze every possible waste out and so put more quality and more sales appeal in, to help them price their product back into the market and so sell many more better homes.

to the Building Suppliers and Dealers of America

to give them a better understanding of the revolution that is fast changing home-building into an assembly-line industry, to give them a clearer picture of their best customers' methods and needs, and so help them sell more of the parts and sub-assemblies their customers need in the sizes they can use most efficiently.

to the Realtors of America

to help them sell more good houses by giving them a better understanding of the values they have to sell and a better appreciation of how much better homes efficient builders can build now than they built in "the good old days."

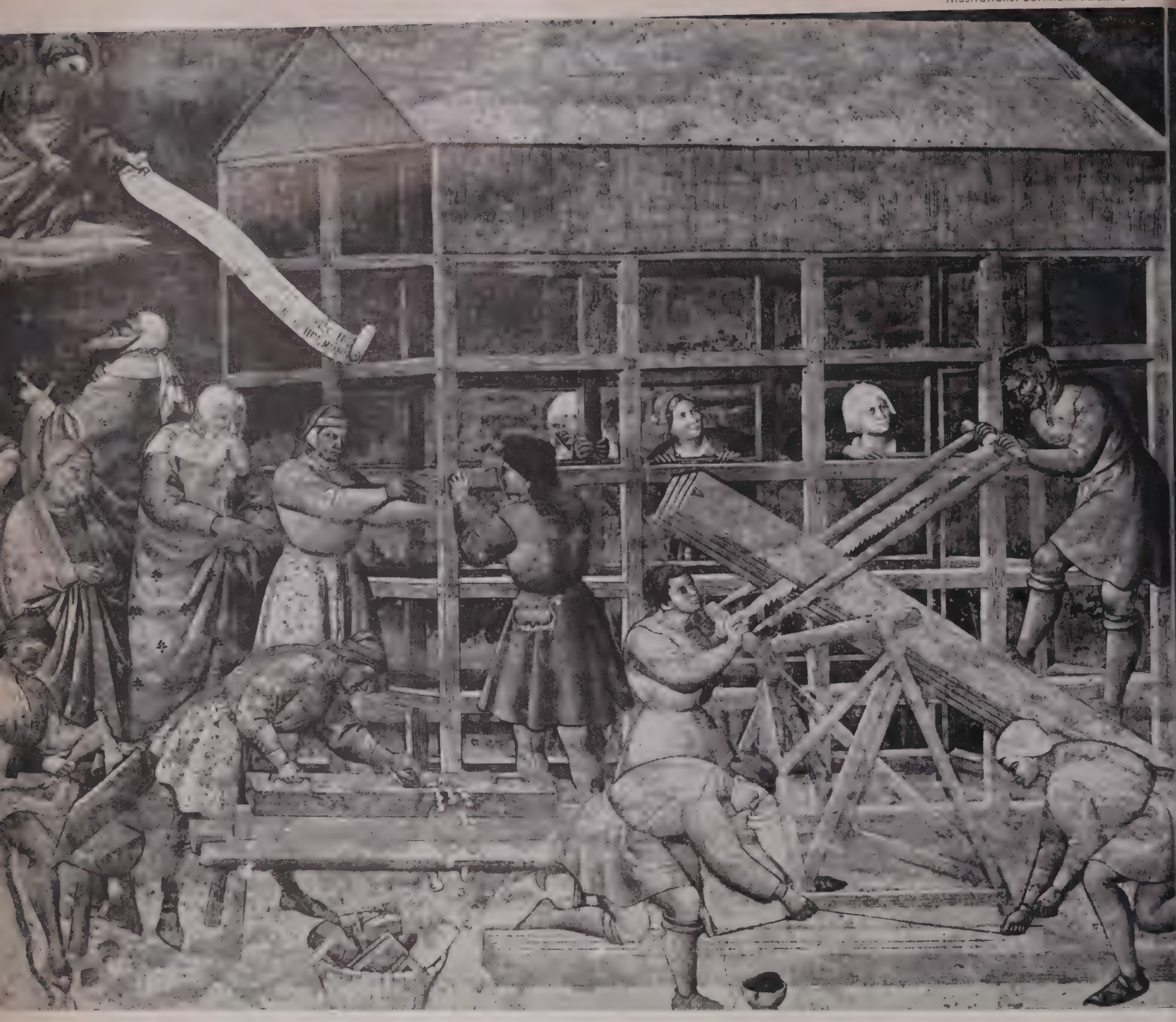
to the Appraisers and Lenders of America

to help them invest more money where long-term value is best, to help them recognize waste and discourage it, to help them play a more dynamic part in raising the standard of housing by backing the builders who use today's best new methods to build better for less.

to the Homebuyers of America

to help them enjoy a better life by helping them to get better homes to live in at prices more of them will be glad to pay.

Illustrations: Bettmann Archive



With all the new ways to build better the Fundamental Rules still apply

Three years ago the Research Institute of NAHB joined HOUSE & HOME in spelling out these 23 basic rules for building better homes for less money (H&H, Sept '58). These three-year-old rules are as true now as they were then, but today's new products, new tools and new methods can double the saving they offer.

Here are the rules as we worded them in 1958—with 1961 postscripts in italics to update them:

Sound old rule No. 1:

Build with Parts instead of Pieces

Don't waste field-labor wages making anything you can buy right.

Anything and everything can be made better and cheaper in a shop than it can be made on the building site; most things can be made better and cheaper in a factory than they can be made in a shop. So if you find you can make your components in the field cheaper than you can buy them shop-fabricated, don't get smug about your production economy. Get busy and find out what's wrong with your buying and who is taking too long a mark-up on your order.

Cost-wise architects and builders all know that hand labor on the site can seldom compete with machines and jigs and assembly lines. So buy your trusses; a lumber dealer can make them so fast on a jig that he can save half his assembly labor cost out of what he can save buying short lengths from the mill for the web members. Buy your wall panels: a lumber dealer can save more than the cost of making them by buying the lumber precut to short lengths (4′ and 7′7″) $20 and $30 mbf cheaper. Buy package fireplaces—they can save you as much as $350, and no one can tell the difference. Buy your gable ends, and buy them complete. Buy your plumbing preassembled in the wet wall. Buy your cabinets factory-made—even Bill Levitt finds it cheaper and better than making his own. Buy your windows preglazed. Buy your doors prehung. Buy your closet fronts complete.



To this we can now add: *Buy your foundations (see p 134); buy your brickwork in panels; buy your floors panelized and prefinished (see p 136); buy your partitions (see p 138); buy your ducts insulated (see p 169); buy your cornices and soffits; buy your roof ridges preventilated (see p 150); buy metal covers for all your outside corner joints; buy your windows preprimed, prehung, and panelized (see p 176); buy your paints factory-mixed—and don't let a lazy painter thin them; buy your utility core preassembled—if you can (see p 164).*

Sound old rule No. 2:

Plan on a 4′ Module to fit the Parts you buy

Almost all components can be bought in sizes that will work with a 4′x8′ module, including drywall, all kinds of sheathing, some kinds of siding (plywood, hardwood, sheet asbestos), batt insulation, trusses, wall panels, windows, closet fronts, kitchen cabinets, appliances, acoustical tile. Roll floor covering is made in even-yard widths, mostly in 12′.

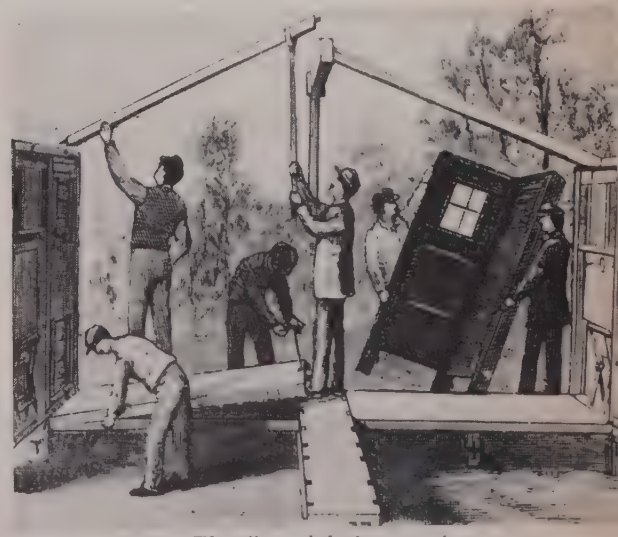
If you want all the savings you can get by building with parts instead of pieces:

1. Buy all your parts coordinated with the 4′ module. Otherwise you will waste countless dollars buying parts that won't fit together without costly on-site piecing.

2. Dimension your rooms to fit the same module. Otherwise you will waste needless dollars because your modular parts won't fit your rooms. (Most economical room dimension is 12′.) Only the bathroom needs a different module—5′ one way to fit the tub length, 32″ the other way to fit the width of the fixtures along the wet wall.

3. Make your walls 8′ high, with a flat-ceiling height of 8′ plus a tolerance. (This means buy the studs for your panels precut to 7′7″.)

4. Build to much closer tolerances. With tilt-up or panelized walls there is no reason for not trying to match the ¼″-in-40′ tolerance to which prefabricators work.



To this we can now add: *The 4′ module is more important than ever, because more components than ever use the 4′ dimension. Even the biggest builders are foolish to think they can save money with a private module of their own, and manufacturers will find they have cut themselves out of tomorrow's volume market if they fail to dimension their products to fit the module most other manufacturers are using.*

Illustrations: Bettmann Archive



Sound old rule No. 3:

Design to Save Time and you'll Save Money too

Every day you cut off the production schedule will save you dollars on supervision, dollars on labor, dollars on financing. From coast to coast the fastest builders seem to get the lowest costs. For example: in South Bend, Andy Place's schedule is 25 days; in Berea, Ohio, Bob Schmitt's is 28 days; in Dallas, Fox & Jacobs' is 18 days; in Savannah, Clayton Powell's is 14 days.

To this we can now add: *Today's new tools and new methods can cut from four to ten days off these cost-saving schedules.*

Sound old rule No. 4:

Plan Bigger if you want to build Cheaper

The smaller the house, the more it costs per sq ft. Says Rudard Jones, director of the Small Homes Council: "Making the house smaller takes value out of the product faster than it can take dollars out of the price. All your costs come down as the floor area goes up."

Doubling the size of a small house from 24′x28′ to 32′x40′ adds only 42% to the perimeter, only 42% to the foundations, only 41% to the gutter, probably less than 40% to the interior partitions, less than 50% to the heating plant, less than 50% to the plumbing cost for a second bath.

Furthermore, doubling the size of the house makes it much easier to save money by sizing the rooms to fit the measurements you buy. A 12′x12′ room is almost sure to cost less than a room 9′8″x11′4″.

Adding depth costs less than adding length. Most economical depth for a small house is 32′.



To this we can only add: *Too many too-small houses have already been built.*

Sound old rule No. 5:

Don't use Muscle Power when you can use Horse Power

Just because houses are assembled out in the open instead of being assembled in an assembly plant is no good reason for doing things by hand that could be done ten times easier with power equipment.

Too many subs still do things the hard way for fear cutting their costs would cut their bill and so cut their profits. But don't let them waste their time and your money. Insist they buy and use all the best new power equipment. If necessary, buy the tools yourself and lend them to your subs until they learn to want them. That's what Bill Levitt did for some of his subs, and it saved him thousands of dollars.

Anything and everything from grading the site and digging the trenches to smoothing concrete and driving nails can be done cheaper and better with modern tools. So . . .

Grade your site with a bulldozer.

Dig your foundations with a posthole auger, a trencher, and a backhoe.

Move your materials with a high-lift shovel, a forklift, and a two-story hoist.

Tamp your soil base with a power compactor.

Mix your concrete in a power mixer and finish it with a power trowel.

Cut your materials with a radial saw, a panel saw, a circular hand saw, and a router.

Drive fasteners with a stapler, a stud driver, a power screwdriver, and a power nailer.

Spray your paint with a paint spray.

Finish woodwork with a floor sander and a hand sander.

Carry your power to the job with a portable generator.



To this we can now add: *Today's new and better tools can cut more costs more than ever.* *See page 128.*

Sound old rule No. 6:

Let the Dealer earn his Mark-up by the money he saves on Handling

A good retail dealer can afford much better materials-handling equipment than most builders, so have him deliver your panels along the foundation, your trusses atop the walls, your flooring, your drywall, your appliances, and your plumbing fixtures inside the house, your roofing on the roof, your bricks and blocks and grade beams where the masons will use them.

To this we can now add: *Today's better lifts and carriers give a whole new answer to "who should make what, and how big, and where." Their wider use is now the No. 1 requirement to speed the industrialization of homebuilding.* *See page 122.*

Sound old rule No. 7:

Don't waste Studs—they cost you $5 each

Says Professor Albert George Dietz of MIT: "Practically all small houses built today use too many studs. You can't say they are overengineered, because they aren't engineered at all. They are just overbuilt."

Reports the Small Homes Council: "Our time and motion studies show that by the time it is installed a 65¢ stud costs close to $5;" and the less studs you use the less it will cost you to erect your drywall, insulation, sheathing, and siding, and the less nail heads you will have to spackle.

So, 1) space your studs 24′ oc. There is no excuse for any local code that requires studs 16′ oc for one-story houses; 2) don't waste cripples over windows, They are worse than useless; 3) buy windows sized to fit your stud spacing; 4) put only one stud between multiple windows; 5) group your windows.



To this we can now add: *Don't use green lumber.* *See page 127.*

Sound old rule No. 8:

Assemble your walls in Fewer Layers

A few builders still put up their walls in as many as 16 separate site operations for 16 separate layers (including the paint). You can save many field labor dollars by designing your walls to combine or eliminate half the layers and so get a finished wall in six operations instead of 16. For example: combine your vapor barrier with your drywall; or your vapor barrier with your insulation. Combine your sheathing and insulation, or your sheathing and your siding. Don't waste building paper over solid sheathing or under panel siding. Don't waste diagonal bracing under sheathing or under plywood or hardboard siding. Use drywall instead of wet plaster—it's better as well as cheaper if it is applied right.



To this we can now add: *You can save even more by buying your wall panels complete and prefinished.* *See page 140.*

Sound old rule No. 9:

Frame your roof with Long Trusses

They save Builder Nels Severin $650 a house, Builder Andy Place $800, Builder Bob Schmitt $1500, as follows:

$300 for getting the house under cover the first day. "This lets me schedule my crews rain or shine, offer steady employment, and so get better men."

$200 on faster laying and finishing of the hardwood floor.

$150 on thinner partitions and easier erection.

$300 plus on plumbing, heating and wiring "because the planning freedom under the truss permits a more economical mechanical layout."

$50 on a simple slab because of no interior bearing walls.

$100 on materials handling "because I can unload the trucks inside the house before I partition off the garage."



To this we can now add: *You can buy better trusses cheaper almost everywhere (see p 146); and unless you use trusses you can't take advantage of all the factory-made non-bearing panels for interior partitions (see p 138).*

Sound old rule No. 10:

Engineer to use less and better Nails

It takes close to 65,000 ordinary wire nails to hold a small house together. The nails are cheap—perhaps $100 a house—but carpenter labor to drive them is expensive.

So use only threaded nails. They can be shorter and thinner and still hold better. The smaller the nails the faster you can drive them (you can drive three nails a second in a nailing machine), and with smaller nails you can use a smaller nailing machine. Thinner nails are less likely to split the wood, and shorter nails are much less likely to pop. (This is especially important for drywall and for roof sheathing, where a popped nail can damage the weather coating above and start a leak.) You can fasten flooring four times as effectively with 2½x0.113 hardened high-carbon-steel helically-threaded nails than with the commonly used 2½" light cut nail. For maximum economy, engineered nailing requires more different nails of more different types than builders usually use. These better nails cost more per pound but less per nail.



To this we can only add *amen and reprint on page 216 the nailing schedule prepared by Architect Leonard Haeger, former research director of* HHFA *and* NAHB.

Sound old rule No.11:

Plan to use Glue wherever you can

A good, glued joint can be the strongest, most lasting, most rigid connection you can make, and it is often cheaper than weaker joints.

Most architects and builders are so accustomed to using nails that they are slow to realize how much better many parts can be held together with glue. Modern chemistry has developed an adhesive for almost every need.



To this we can now add: *There are new and better adhesives for many more uses. Glue drywall to the studs—but on your trusses save time and money with metal plates instead of glue-nailed plywood gussets.*

Sound old rule No.12:

Use Brick where it will Show

Homebuyers like brick houses. In many parts of the country, especially the South, it is hard to sell anything else.

No trade association has done more to develop new ways to use its material more economically than the brick industry through the Structural Clay Products Research Foundation. It has developed thicker bricks for thinner bearing walls, thinner bricks for brick veneer, bigger bricks for economy in laying-up, bricks with hand grips for faster bricklaying, brick veneer wall-panels for looks and reinforced brick wall panels for structure.



To this we can now add: *You can now build a brick bearing wall for less than the cost of yesterday's brick veneer.* *See page 156.*

Sound old rule No.13:

Plan for less Waste in Painting

Painting most houses takes more on-site manhours than any other trade except carpentry, and carpenter manhours are being cut so fast by more efficient methods that painting may soon be homebuilding's No 1 labor cost.

Most of these painting manhours are wasted doing work on the job that should be done in the factory, or doing work with a brush that could be done better in one-tenth the time with a spray.

Building is the only big industry left that still applies paint with a brush (and a too narrow brush at that). Every other big industry applies paint by spraying or dipping at a small fraction of what brush-painting costs.

Instead of bargaining with the painters whether to pay them $3.70 an hour or $3.80 an hour to waste most of their time, builders should be working out a brand new deal to pay painters much higher wages to get the painting done much faster with today's best new materials and equipment.

Spray painting is no job for the do-it-yourself amateurs who now apply 60% of the paint used in this country, so union painters are not always averse to spray painting in return for premium pay.



To this we can now add: *Don't paint anything if you can buy it painted. If you can't buy it painted, buy it primed. If you can't buy it primed, insist on one of the new 15-year paints for all outdoor jobs, and on the new one-coat finishes for all interiors.* *See page 130.*

Sound old rule No.14:

Plan your house for Air Conditioning



Almost everybody wants air conditioning, and air conditioning offers builders their one best way to dramatize how much better houses they can build today than yesterday. But the whole house must be planned for air conditioning if the cost is to be kept low enough for everyone to afford it. It makes no sense to install four tons of cooling if correct design could cut the cooling load to two tons. Insulation makers say a properly designed, properly insulated 1,200 sq ft house can be heated and cooled anywhere in the US for $128 a year.

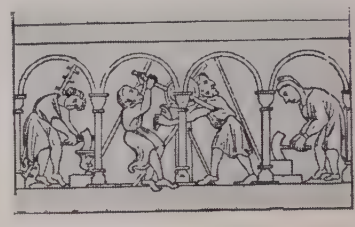
Good planning for air conditioning begins with planning a house that will be easy to keep cool *with or without* air conditioning. For this there are eight basic rules to follow.

To the basics we listed then we can only add: *"Put your kitchen fan in a big hood to pick up the range and oven heat right at the source, and be sure the fan is powerful enough to meet* FHA*'s new and better standards. The fans in too many kitchens and baths are so feeble they can hardly spin their own blades, let alone their job."*

On page 213 you will find reprinted the sound advice we gave three years ago to cut the cost of cooling. For news of new ways to cut cooling costs see page 170.

Sound old rule No.15:

Don't kid yourself Basements are Cheap



Says Builder Bob Schmitt of Berea: "Any builder who thinks basements are cheap just doesn't know his indirect costs. I can add good space on grade for less money per square foot than I could add a basement."

Says Builder Andy Place: "Adding a basement costs me as much as adding year-round air conditioning with full insulation, plus an extra bath, plus a family room, plus a dishwasher, plus a clothes washer, plus a garbage disposer, plus 400 sq ft of better storage space in the attic!"

Builders who know their costs say:

The best way to cut basement costs is just to cut out the basement. There is no other way to cut your costs $2,000 to $3,000 per house without cutting any real value out of your product. The only time a basement makes sense is in a hillside house, where most of it is above ground (in which case it isn't really a basement).

To this we can only add: *Don't kid yourself that homebuyers won't buy unless you offer a basement. Nobody but nobody wastes money on basements in the South or West. In New Jersey the best selling builder (Levitt) never offers basements; in Ohio the best selling builder (Huber) never offers basements; in Massachusetts the best selling builder (Campanelli) says hardly anybody buys his basement model; in Missouri the best selling builder (Fischer & Frichtel) says only one buyer in four is willing to pay for a basement; and in Indiana, Builder Andy Place offered homebuyers their choice and only one buyer in 19 took the basement model.*

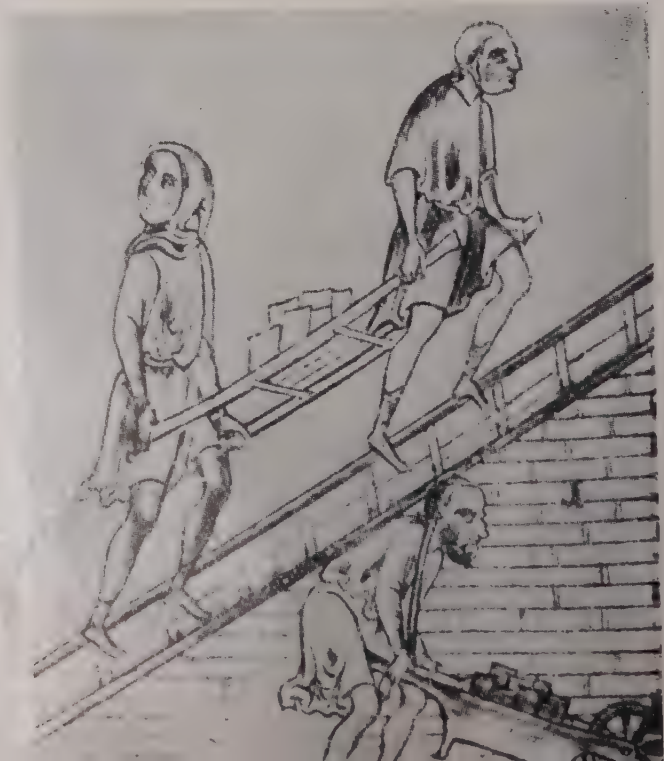
And don't kid yourself the high basements that are now so popular offer you a cheaper way to build a two-story house. Says Builder John Fischer of St Louis: "The most economical place to build any house is on top of the ground, not down in a hole."

Sound old rule No.16:

Don't do Anything on a Ladder your men could do on the Ground

For example: preassemble your gable ends and hoist them into place. Prepaint your siding all but the last coat before you put it on the wall. Prenail your shakes to 16″ nailing strips before lifting them to the roof. And give your men a platform to stand on when they work on the ceiling.

To this we can now add: *As housing industrializes there is less and less excuse for working on ladders. For example you should: Paint your ceiling with a long handled roller, paint your gable ends and gutters and soffits on the ground or in the shop, tape your drywall joints with long handled taping tools, assemble your walls in jigs, lay brick from a movable platform.*





Sound old rule No.17:

Design your houses to look Big

Every builder should let his architect follow these five simple rules to give more curb appeal to his houses by making them look longer and therefore bigger and more-for-the-money:

EMPHASIZE YOUR HORIZONTAL LINES

Emphasize your roof line with a big overhang of at least 2′ and don't interrupt your roof line with little jogs. Emphasize your window head line by lining up the heads of all your doors and windows. Emphasize your middle line by running a moulding or belt course right around the house at sill level, or perhaps by using a different material, like brick veneer, below the sill line.

DON'T DESIGN A BANANA SPLIT

Don't use different materials in such a way that they split the front of your house into two or three smaller units. That just makes the house look smaller.

EXTEND YOUR HORIZONTALS BEYOND THE END OF THE HOUSE

1. Always extend your roof overhang at least 2′ beyond each end of the house. A house 40′ long with a 44′ roof will look a good deal bigger from the curb than a house that really is 44′ long if the 44′ house has only a 44′ roof—but the extra 4′ of roof will cost less than a fifth as much as adding 4′ to the house itself.

2. Use fencing to extend the middle line at least 4′ and preferably all the way to the property line on both sides.

MAKE YOUR WINDOWS LOOK HORIZONTAL

Combine your windows into longer units with panels between; better still, combine your windows in horizontal units so no panel is needed.

MAKE THE ROOF BIG

Put the garage or carport under the same roof as the house.

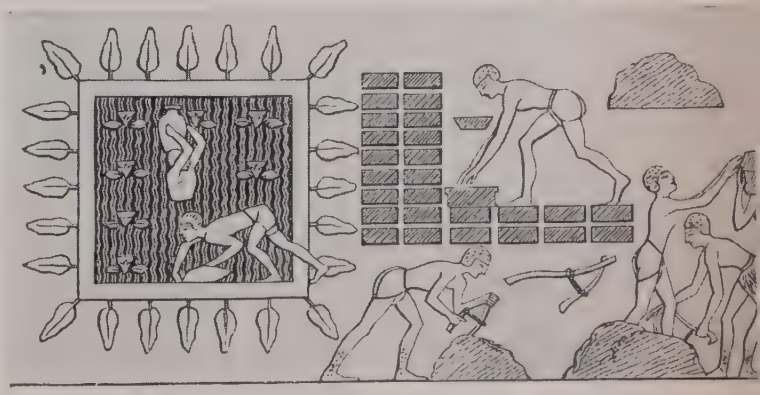
Sound old rule No.18:

Don't waste your Outdoor Space

Cheapest space anyone can add to a house is outdoor space for outdoor living. It is as salable as it is cheap, for outdoor living is what most families move to the country to enjoy. With floor-to-ceiling windows, it can double the seeming space of small rooms indoors. And all it costs is a little money for paving, a little money for planting, a little money for fences, a little money for attractive outdoor lighting, and a little more thought.

Too many builders pass up this bargain in outdoor living and offer only the ten-times-as-expensive indoor living. Too many new houses make little more provision for outdoor living than a city apartment. Some houses don't even have a door opening directly to the lawn. They have a front door to the front walk, a side door to the garage, and a back door to the service yard to put out garbage or hang out the wash—but no door through which people can walk out to enjoy their land.

Bettmann Archive



To this we can now add: *Today's inflated land costs and development costs make it doubly important not to waste the land you buy. Some houses wisely planned on lots 24′x80′ offer more enjoyment of the out-of-doors than most houses built on lots 60′x120′.*

Sound old rule No.19:

Put better Storage in the space you now Waste

Today your best prospects are families in their middle thirties who have been on a buying spree for ten years. Two out of three new houses are sold to second-time buyers—people dissatisfied with where they have been living. And more homeowners are dissatisfied with the inadequate storage in their present homes than with any other fault.

To give buyers the storage they want and need you don't have to plan their garage as a two-car attic and you don't have to dig them a $3,000 basement. You can provide most of the storage they need in space that you now waste.

Bettmann Archive



To what we said then there is nothing to add, *so on page 212 you can re-read the same storage advice we gave our readers three years ago.*

Sound old rule No.20:

Plan your house to fit your Site

A house that is right for a 100′ lot seldom makes sense for a 50′ lot; a house that is right for a flat lot may be all wrong for a hillside lot or even a gently sloping lot; a house that is right for the north side of the street is probably wrong for the south side.

That's why plan-book houses often cost more to build than houses suited to the site by a local architect.

PLAN A HILLSIDE HOUSE FOR A HILLSIDE SITE

That is one place where a basement makes sense, for it gives you a two-story house with both stories at ground level, either front or back. A hillside house is never cheap, but a hillside basement gives you prime space instead of a dark hole in the ground; it costs less than a below-grade basement on a level site; it often costs less than grading the lot for a one-level house.

Furthermore, the less you disturb a hillside grade the less trouble your buyer will have later with slides and erosion.

PLAN ONE-STORY HOUSES IF YOU HAVE ENOUGH LAND

You can't beat the one-story house for convenience and livability, and you can't beat it for construction economy. Except in the tradition-bound Northeast, few of the fine country houses custom-built on flat ground since 1940 have had more than one floor. A level lot 100′ wide is big enough for almost any one-story house.

Never build a detached house smaller than 1,200 sq ft on more than one level.

A story-and-a-half house (ie, a Cape Cod) is the most expensive of all to build, the Small Homes Council found (H&H, Mar '58).

BUILD TWO STORIES IF YOUR LOT IS TOO NARROW

If you want to put 1,500 sq ft on a 60′ lot or 1,800 sq ft on a 70′ lot, the two-story house may be your best bet. What you save on buying less land may pay what it costs you extra to double-deck your construction.

But don't build two stories because you think they are cheaper; even for conventional construction the Small Homes Council found they cost more than any other layout except the story-and-a-half.

When builders like Bill Levitt find their two-story cost is less per square foot it is not because adding a second floor is the cheapest way to add space; it is because any added space always costs less than basic space.

One good way to build a two-story house is to use an above-ground basement for the lower level, as in Carl Koch's Techbilt house.



DON'T BUILD SPLITS UNLESS . . .

1. Your subs will absorb their higher cost for you, or
2. Unless your buyers will pay more to get less.

A split costs an efficient production builder more per square foot than any other floor plan, because no one has been able to devise an efficient way to build one. On a flat site they combine in one package everything that is wasteful in basement construction, crawl space construction, and two-story construction. They defy the economies of panelization, tilt-up, and one-big-room finishing. With few exceptions they are nailed together one stud, one joist, and one rafter at a time with interior bearing walls.

PLAN ROWHOUSES FOR HIGH-PRICED LOTS

Never try to squeeze more than six detached houses onto an acre. Six houses to an acre cuts your lot size to about 50′ x 100′, which is already too small to justify wasting space between houses on side yards too narrow to be any good.

Two-story row houses 25′ and 30′ wide with one or two fenced patios per house can be planned to offer as much real enjoyment of the land 13 to the acre as detached houses six to the acre—especially if you reserve some of the land you save for neighborhood play areas big enough for games. (H&H, Oct '57).

Says Ross McKeever of the Urban Land Institute: "At the same density you can get more privacy with rowhouses on 30′ lots than you can with little boxes set directly in the middle of 60′ lots."

Sound old rule No. 21:

Don't spend Good Money on anything less than a Good Kitchen

A bad kitchen costs just as much money as a good one. The woman who buys your house may not understand electronics or thermodynamics, but unless she is a very green bride she will know at a glance whether she will like the kitchen you offer her—whether it will be a pleasant place to work in and an easy place to work in, and whether it is conveniently located so she can answer the door, watch the children, and enjoy her guests. "The kitchen sells the house" is a truism.

There are 15 good ways to make a good kitchen better without making it cost more, and nine good ways to make it cost less and still be just as good.



To this we can now add: *Those 24 ways are still good, so you will find them reprinted on page 215. They were worked out for* HOUSE & HOME *in collaboration with Glenn H. Beyer, director of Cornell's Housing Research Center and head of the Cornell Kitchen Study.*

Sound old rule No. 22:

Get your Wiring out of the Ceiling—and use less and heavier Circuits

Illustrations: Bettmann Archive



Don't let your electrician waste his time and your money. Many builders could get adequate wiring (100-amp entry or better) for little more than they now pay for inadequate wiring (60-amp).

Don't let your electircian bid a flat price per outlet. Find an electrician who will work with you to detail a more economical wiring method and share his savings on this more efficient system with you.

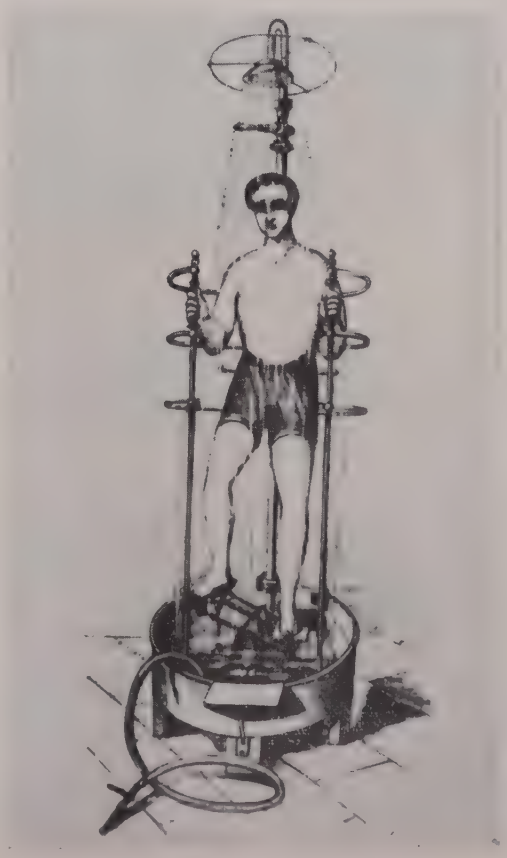
There are 20 good ways to cut the cost of adequate wiring, worked out for HOUSE & HOME in collaboration with Charles P. Bobe, chairman of the Research & Educational Committee of the National Electric Contractors Association.

(The two most important are briefed in the headline above. They are all reprinted on *page 205*.)

To this we can now add: *1) Get your indoor wiring out of the wall (seee p 173); 2) Get your outside wiring underground (see p 172); 3) Install circuit breakers instead of fuse boxes. They cost $5 to $10 more, but a careful count by a major southern utility showed they cut service calls 90%; 4) Prewire for plenty of telephone outlets. Prewiring costs so much less that many Bell companies will do it free.*

Sound old rule No. 23:

Buy your Plumbing prefabricated—and keep it Above the Floor



More builders and more architects get stuck on their plumbing and bathroom costs than on anything else they pay for.

Bathroom costs vary more from place to place and from builder to builder in the same place than any other costs. Builders who are both smart and lucky can add a second tiled 5′x8′ bath for less than $450 complete, including $150 for the raw space. Most builders have to pay twice as much. This is not necessarily the plumber's fault.

One reason plumbing costs vary so much is that so many communities still have archaic plumbing codes. If your city has a bad plumbing code it would pay your local builders' association to challenge its wasteful requirements in excess of the up-to-date requirements of the National Plumbing Code.

Another reason plumbing costs vary so widely is that some states permit restrictive local licensing practices to stifle competition among plumbers. Builder Dick Hughes pays $300 less in Texas than he pays in Oklahoma for identical plumbing in identical houses, because Texas has state licensing for plumbers and Oklahoma does not. But . . .

Biggest reason plumbing costs vary so widely is that few builders are ex-plumbers and few builders know enough about plumbing to work with their plumbers to get better plumbing for less money. There are 25 ways builders and plumbers can help each other cut costs. (Most important are the two rules in the headline above.)

To this we can now add: *Most of these 25 ways are still good, so you will find them reprinted on page 208. But how much longer they will stay good is a question, for the bathroom is heading into the biggest and most exciting revolution since the toilet came indoors. For a preview, see page 166.*

Now let's consider what new rules must be added to the old to profit by new products, new tools, new methods, new ideas

New rule No. 1:

Don't be afraid to show joints . . . in your ceiling→

Architect: Guy Edwa[illegible]



Architect: Craig Ellwood. Photo: Marvin Rand



. . . in your interior wall panels

Architect: Jones & Emmons. Photo: Julius Shulman



Architect: Warren Callister. Photo: Ernest Braun



. . . in your exterior wall panels

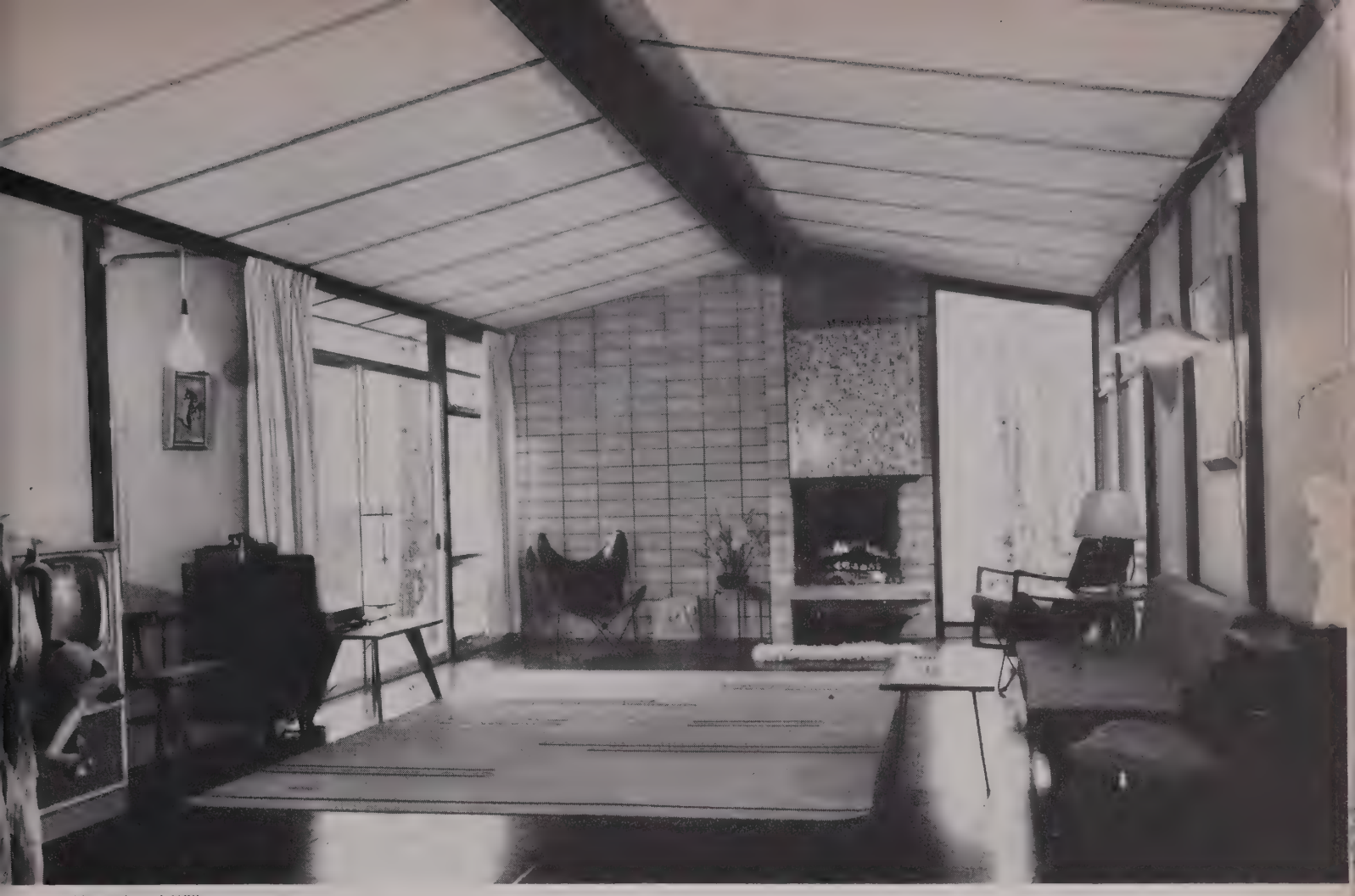
Architect: Alden Dow. Photo: Baltazar Korab



National Homes



. . . or in your roof



Architect: Joseph Wilkes

Let your panelized houses look panelized

Not so long ago architects and builders were spending millions of dollars each year for moldings to make monolithic plaster look panelized.

Today, contrariwise, architects and builders are spending millions of dollars a year (at least $50 million and perhaps $100 million) to hide the joints between drywall panels and so make drywall look like monolithic plaster!

This $50 to $100 millions is nothing compared to what it would cost to hide all the joints in tomorrow's component-built houses. And no amount of money will solve the prefabricated roof problem as long as we think the joints will have to be hidden.

All this is nonsense. There is no good reason why a panelized house should look like anything else. Any good architect has to know how to make visible joints an attractive design feature.

For small-scale items the joints are always the most attractive feature. In fact, the visible joints are the No. 1 reason homebuyers like the looks of small-pane windows, brick and masonry walls, ceramic tiles, shingles, clapboards, and board-and-batten siding. And you can often improve the appearance of sheet materials like plywood by grooving them to look as if they had more joints than they really do.

On any larger-scale items modular joints have long been recognized as equally pleasing. The visible joints are one big reason so many people like beamed ceilings and half-timbered houses.

The pictures on these two pages should remind you of many ways to make panelized houses look better by dramatizing instead of hiding the joints.



J. R. Eyerman, LIFE

New rule No. 2:

Don't build from the outside in—

Don't insert your components into fixed openings, they may or may not fit; position your components before you close them in. For example:

Don't wall in your kitchen before you hang the wall cabinets and set the appliances. It's a lot quicker and easier to dimension the kitchen to fit the cabinets and erect the end wall after they are all in place.

Set your bathtub before you close in the end of the bathroom. Don't try to wrestle a 400-lb tub 60″x16″x32″ through a narrow doorway.

Finish your plumbing before you frame it in (most economical framing is a thin non-bearing partition on either side of the pipes).

Finish installing and connecting up your furnace and your water heater before you wall them in. There is no better way to waste time than trying to install a furnace in a finished 2′x3′ closet.

Don't position your studs before you insert your windows in



Home Building Corp of Sedalia

try to build from the inside out

conventional construction; that way you may pay more to shim the window into place than you paid for the window. You can save all that shimming time if you set your windows in one, two, three order—first the stud on one side, then the window, then the stud on the other side.

Install your disappearing stair (or stairs) to the attic and finish your overhead ducts before you drywall the ceiling.

Don't close in your house until everything has been carried in. Last wall Bob Schmitt erects is the wall between the house and garage. That way he can truck his parts right indoors and unload them under the roof.

No auto maker would dream of putting the head on the engine before he fitted the pistons in the block. And trailer makers, those most industrialized and therefore most efficient of homebuilders, say they save hundreds of dollars by always building from the inside out.

New rule No. 3

Rethink everything to get all the big savings the revolution in materials handling offers you

This revolution is the biggest build-better-for-less news of all, because . . .

1. It makes it easy to handle much heavier units, so you can plan to build with much bigger and heavier prefabricated components like those shown in the pictures alongside.
2. It makes materials handling the only construction cost that (like earthmoving and roadbuilding) should be lower today than in 1929.
3. It changes the answers to "Who should do what, and where?" It lessens the need for costly on-site fabrication and increases the chance for shop fabrication, where almost everything can be made better and cheaper.
4. It changes the answers on when to do what at the site. For example, instead of putting in your driveways last (as many builders do) you can now save money by putting them in first. Instead of closing the house in first (as most builders do) you can now cut your costs by not closing it in until you have to (*see p 121*).
5. It changes the answers on builder-dealer relations. Not so long ago many builders were finding they could cut their costs by "buying direct" and short-cutting the dealer. But now many of these same builders are finding they can cut their costs more by teaming up with a dealer who has volume enough to afford the most efficient specialized equipment to deliver everything just where it is needed—drywall inside the house, siding along the sides, trusses on the walls, roofing on the roof, etc.

Says Clarence Thompson: "We dealers must earn our mark-up by performing a service for the builder cheaper than he could do it himself." The revolution now under way in materials handling makes this much easier.

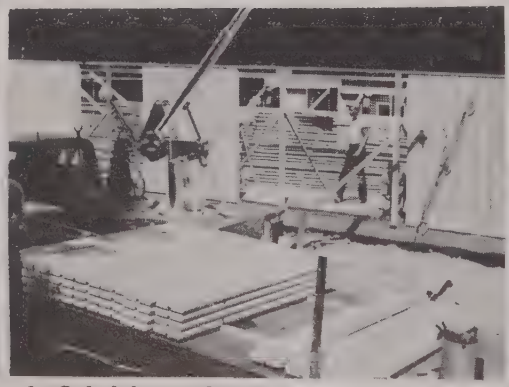
Today's materials handling tools let you handle big pieces like . . .



house-width floor panels (460 lb) . .



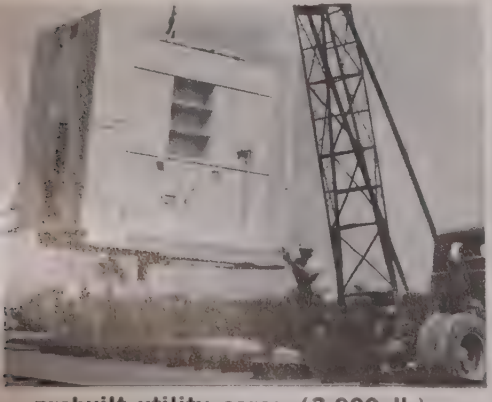
two-story plumbing walls (600 lb) . . . .



1′x8′ brick panels (250 lb) . . .



precast concrete grade beams (4,000 lb) . . .



prebuilt utility cores (3,000 lb) . . .



prefabs in three sections (17,000 lb) . . .



or whole houses (80,000 lb).

These on-site material carriers can cope with rough terrain



Rubber-tired loader is heavy enough to handle big unitized bundles.



Fork lift on tractor carries masonry pallets.



Bulldozer moves heavy stack of drywall.



Loader hook lifts trusses, puts them on the house.



Loader bucket puts shingles on the roof.

The revolution is well under way, but much more remains to be done

Walter Daran



Five years ago a HOUSE & HOME Round Table cosponsored by the Lumber Dealers' Research Council reported unhappily:

"Only one lumber dealer in ten is equipped to handle unit loads; only one box car in eight has the wide doors needed for unit loads; only one producer in a hundred is equipped to package and ship unit loads; only one builder in a thousand is equipped to receive unit loads.

"So from raw materials to finished erection the costs of materials handling (most of it inefficient) add up to one-fourth of the total construction cost of housing."

"That HOUSE & HOME Round Table was the real starting point for today's revolution in materials handling," says Clarence Thompson, long chairman of the Lumber Dealers' Research Council. "It made our whole industry recognize the need for a new kind of teamwork between manufacturer, carrier, equipment maker, dealer, and builder, all working together to cut the cost of materials handling. Before that we lumber dealers were working almost single-handed on the problem."

Here is where things stand today:

1. Almost all of the 3,000 lumber dealers who cater primarily to the new-house market and supply 90% of this year's new houses are mechanized. There are few areas left where a builder cannot find a dealer equipped to save him money by delivering everything at lower cost just where his workmen will need it.

2. Practically all bulky housing products can now be ordered in standard units palletized or unitized for mechanical handling—including lumber, asphalt shingles, glass block, face brick, plaster, lime, hardboard, gypsum wallboard and sheathing, cement, insulation sheathing, floor tile, acoustical tile, plaster base, and asbestos shingles.

3. Truck and materials-handling equipment makers now offer specialized units to meet almost every homebuilding need. For some significant new items see the pictures.

4. More than 50% of all lumber is unitized; an NLRDA survey found that at least 492 lumber mills will strap their shipments for mechanized handling. Of these, 376 said they make no extra charge for strapping in standard units, because they save enough on mechanized carloading to offset their strapping cost. Most of the others will swallow their 50¢ to $3 charge rather than lose a good customer. "With a 15,500-lb fork-lift, dealers can unload unitized lumber from wide-door box cars for 30¢/mbf compared with $1.65 or more to unload loose lumber one piece at a time," says James Wright of NLRDA.

5. Lumber dealers and lumber manufacturers have agreed on a standard unit for unitized shipments—48″ wide by a nominal 30″ high (or six McCracken packets 24″ wide by nominal 7″ high). These units make it easy to load as much as 48,000 bd ft (say 120,000 lb) in a 50′ box car—much more than the average for loose-loaded cars.

6. The railroads have responded by adding 20,000 more box cars with doors 12′ or wider for forklift unloading (a 21% increase while the total number of box cars was falling 6%) and by cutting their freight rates twice on lumber shipped in heavily loaded cars. First was a 1958 cut of more than 50% on that portion of the load in excess of 40,000 lb; later came a 1961 cut on the West Coast (still pending elsewhere) of 7¢/cwt on 70,000 lb-plus carloads (which works out to more than $4/mbf on that portion of the load in excess of 70,000 lb).

7. More unitized lumber is being shipped on flat cars, and NLRDA studies show that flat cars loaded with the new Type 6-B floating-load method can be unloaded for at little at 5.4¢/mbf. For long hauls these shipments should be protected with water-proof paper. This costs from 75¢ to $2.30/mbf, but the cover can pay off if the lumber is to be stored in the open.

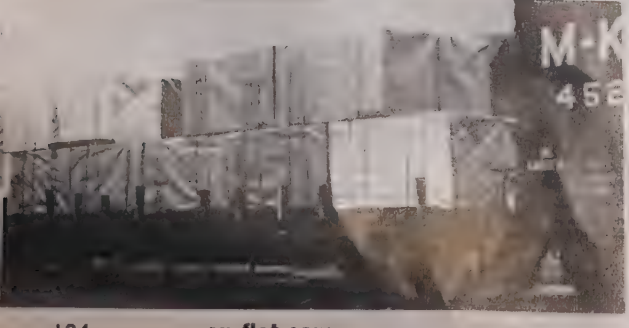
Unitized lumber is easier to handle



. . . in the mill, Nolpn Salon



. . . in box cars,



. . . on flat cars.



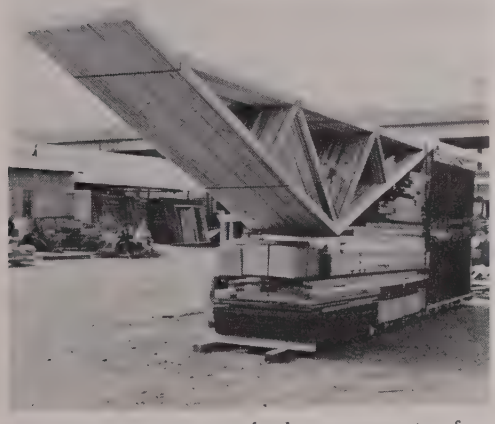
SELF-UNLOADING TRAILER is towed to the site by small truck, unloaded by one man, or left at the site while builder unloads it.

These carriers cut handling costs for the dealer—and the builder

Says NRLDA's James Wright: "Since 1958 carriers that move material from the yard to the job site have undergone more radical changes than any of the dealer's other equipment."

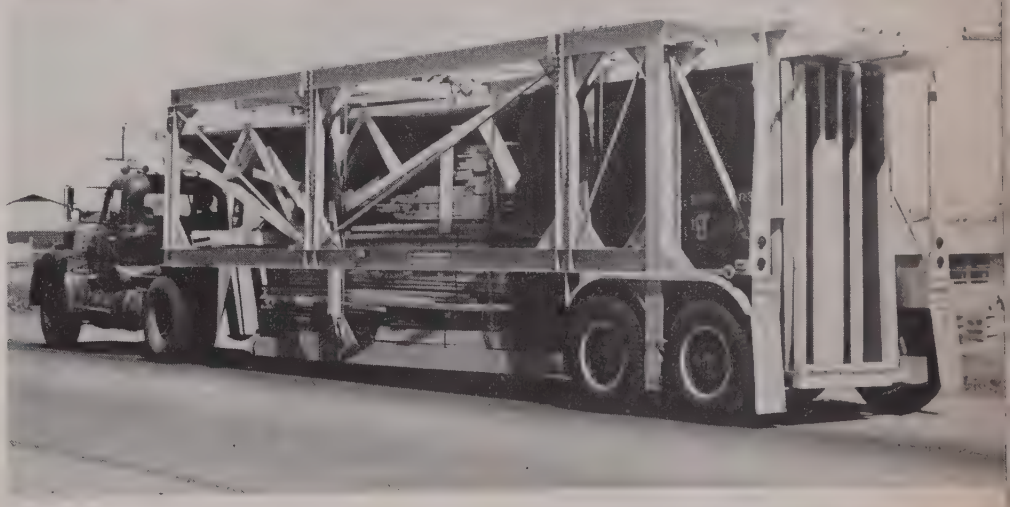
The reason: today's components and lumber packages are far too bulky to be handled by a truckdriver and a helper. So manufacturers have pioneered a new type of vehicle—the self-unloading carrier. It cuts the lumber dealer's cost because it takes only one man—the driver—to unload it, and because it unloads in a fraction of the time and at a fraction of the cost of hand unloading. And it helps the builder because it can handle a more efficiently packaged load, can deliver it to the best spot (in some cases, right on the roof or inside the house), and never takes any of the builder's high-priced labor to help unload it.

Says Wright: "Our survey shows that one third of the retail dealers plan to increase the mechanization of their materials handling in the coming two years. And most of the gain will be in self-unloading vehicles."



STRADDLE CARRIER loads components for whole house, loaded so builder can "peel off" parts in the order he needs them for construction.

H&H staff





HIGH-LIFT TRUCK can carry loads up to 6,000 lb, put them on the roof (above), or slide them to the ground or into a garage (right).





H&H staff

TIME STUDY MAN lists what each man does and how long it takes, so later analysis can show where time is being wasted and raise productivity.

New rule No. 4:

Restudy what your men do, to help them waste less of the time you pay for

Half the manhours you pay for on most jobs are wasted because the job was not planned right, so the right tools were not handy at the right place at the right time, or the right materials were not delivered to the handiest spots or materials were not stacked in the right order for erection, or you bought cheap materials that took too long to fit, or your workmen had to come back twice to finish a job they could have done on one trip.

Even "America's most efficient builder", Bob Schmitt of Berea, hopes to cut his labor costs another $2,000 per house as a result of the time-&-motion studies now being completed on his operation by industrial efficiency engineers from the Stanley Works. Already this study has suggested ways to cut his foundation manhours from 170 to 105 by eliminating idle time and wasted motion.

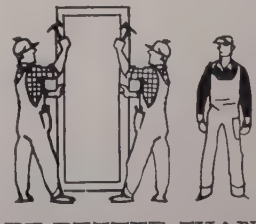
Builder Eddie Carr of Washington, past president of NAHB, cut his bricklaying costs $150 a house by adopting the "SCR masonry process" worked out after careful time-&-motion studies by the Structural Clay Products Research Foundation to help bricklayers do better work for less. A midwestern builder cut his labor costs per thousand bricks from $81 to $43.50 by adopting this same process, cut them another $7.50 to $36 by buying his bricks in convenient, easy-to-spot 100-brick packages. The SCR process, with its precision corner-posts, its precision guide lines, its working level scaffold, and its hand-level brick supply takes eight manhours to get set, but once ready it makes it easy for bricklayers to lay a thousand bricks a day. See *page 156*.

One good way to cut your labor waste is to make sure you are using just the right number of men in each crew. Reports Jim Lendrum: "By studying men on the job, we found that two men—a carpenter and a helper—can lay a floor faster than three. We found that three men—two carpenters and a helper—can put up wall panels or trusses more economically than four men—because four men don't make two teams; they make one inefficient three-men-and-a-helper team. We found that wherever you can use two teams on a job, five men, not four, is the magic number."

No house was ever built that could not have been built better for less if the work had been better planned and the work better scheduled.



2 ARE BETTER THAN 3



3 ARE BETTER THAN 4



5 IS THE MAGIC NUMBER

New rule No. 5:

Don't waste any 10¢-a-minute time on green lumber to save 3¢ a stud

This is the most penny-wise, pound-foolish chisel a builder can commit.

Green lumber was all very well back in the days of wet plaster, when the framing lumber was bound to swell and then shrink as tons of water dried out the gypsum. But now that all production builders build with drywall and all smart builders build with panels, green lumber is an anachronism you cannot afford.

Green studs cost about 65¢; dry studs cost less than 3¢ more. So if a green stud makes a carpenter or a drywall finisher or anybody else waste even 20 seconds, the green stud becomes more expensive than a dry stud. And don't forget that the in-place cost of a 65¢ stud averages nearly $5 (according to the Small Homes Council), so it is much more profitable to save dollars on framing labor than to save pennies on framing lumber.

Green lumber is the No. 1 cause of nail popping, the No. 1 cause of plaster cracks. Green lumber can make paint blister and glue fail. Bent members of green lumber are difficult in conventional one-stud-at-a-time construction because they waste carpenter time. They are just plain impossible in panel construction. What can a carpenter do to align a twisted stud in one panel with a straight stud in the next panel?

And dry lumber framing is much stronger. Says a Forest Products Laboratory Publication:

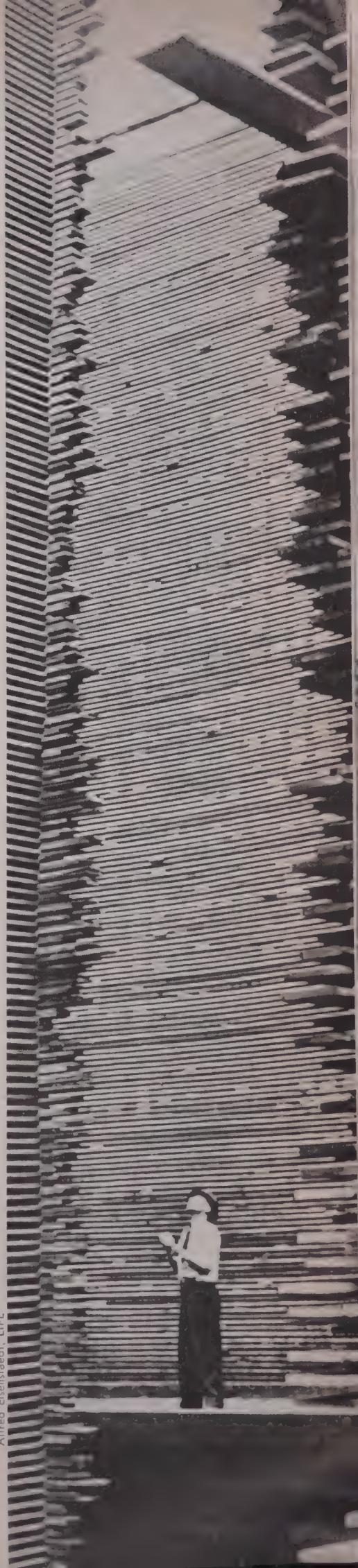
"Panels made by nailing green lumber to a frame and allowed to season one month before being tested were found to be about half as rigid as similar panels made of seasoned lumber and tested immediately; tests have shown that a box nailed in green condition, dried in storage 45 days, and tested at 10% moisture content may have only one-fourth the strength as when made of dry lumber."

The dryer the climate, the more important it is to build with dry lumber, because the drier the climate the more shrinking you are bound to get from green lumber.

Not much green lumber is shipped into the Middle West, because the added cost of shipping tons of water in green lumber by rail makes green lumber cost almost as much as dry. The Department of Agriculture says drying lumber to 19% cuts the shipping weight of Douglas fir from 2,900 lb mbf green to 2,200 lb dry; western hemlock from 3,400 lb green to 1,900 lb dry; southern pine from 3,800 lb green to 2,600 lb dry. But where rail freight costs are no problem, builders are wasting millions of manhours a year on green lumber bought from local mills, brought in by coastal barges (as in California) or brought by boat (as on the East Coast).

All big lumber mills would prefer to sell dry lumber if builders would pay the extra cost of drying—roughly $6 or $7 mbf for studs, roughly $12 for bigger members largely offset by lower freight costs for shipping less water. The Southern Pine Association permits its grade mark only on dry lumber.

Lumber is second only to coal as a source of freight revenue for the railroads; it provides 19% of the total for some carriers (like Southern Pacific). Nobody ships dry lumber by water (where it might get soaked)—so if the railroads want to get more lumber shipped across the country or along the coast by rail instead of by boat or barge, they might be smart to join the lumber producers in promoting the economy of building with dry lumber.



Alfred Eisenstaedt, LIFE

New rule No. 6

Give your men the latest tools so they will waste less of your time. For example:





To move earth . . .

. . . insist on machines that let one operator do the work of many. This 15-yd pan scrapes, loads, transports, dumps, and levels in one continuous operation, saves you four machines and operators, and changeover time.



To dig trenches . . .

. . . use a power ditcher. It can cut trenches for pipes and wires at 800′ an hour. It can dig foundations five-houses-an-hour, whereas a laborer with a shovel can't dig one in a day. Machine also has backfill blade.

To pave your streets . . .

. . . use a slip-form machine to pour the road and both curbs in one pass. It can lay 1,000′ of 25′-wide road a day—twice as much as a conventional paver—and do it with a crew only half as big.



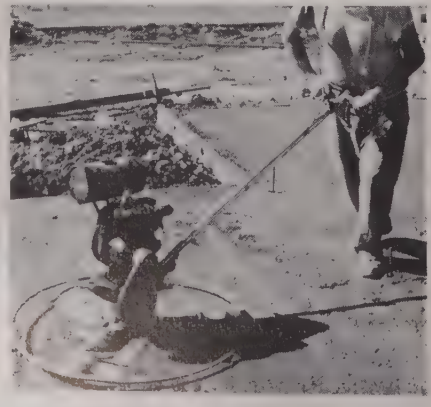
To build beyond power lines . . .

. . . use a portable generator. It can pay for itself in four or five houses by letting you use all your labor-saving tools. Cost: about $800 for a 5,000-watt unit—big enough to run several tools.



To keep in touch with your men . . .

. . . use a two-phone hookup. For [illegible] seezem this lets one [illegible] 60 houses. It cuts costly [illegible] and speeds up jobsite de-[illegible].



To finish concrete . . .

. . . insist on a power trowel. It works up to 20% faster than a hand trowel, can do a better job in two passes than a hand finisher does in three. And it quickly knocks down hard spots a hand trowel can't touch.



To fasten plates to slabs . . .

. . . use a stud driver. It's almost 30 times as fast as drilling and bolting, so cuts labor cost from 40¢ to less than 5¢. Stud and cartridge cost 14¢ more, so the overall saving is 20¢.



To spike framing timbers . . .

. . . use a pneumatic hammer. It drives spikes from 20d to 60d three times as fast as a carpenter with a hammer or sledge, leaves the operator far less tired And there are no bent spikes to pull out.



To nail sheathing . . .

. . . use a continuous-feed nailer. It can triple the speed of nailing sheathing, lets one man do the roof of an average-sized house in half an hour. It can be operated by unskilled labor, drives nails up to 16d.



To staple lath or backerboard . . .

. . . use a pneumatic stapling gun. It drives up to 200 staples a minute—four or five times faster than the best hammer man. Staples come up to 2″ long, can also be used to nail decking and sheathing.



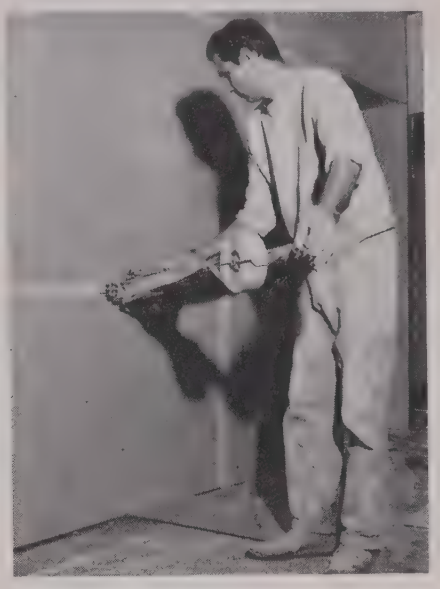
To work at ceiling height . . .

. . . put your men on stilts. They save at least an hour a day moving horses and planks from room to room, get rid of time-consuming obstructions, let your men work more comfortably and faster.



To hold up ceiling board . . .

. . . use a spider jack that lifts gypsum-board (up to 4′x12′) from shoulder to ceiling level, slides it in place, holds it firm for nailing. This jack lets one man do a job usually done by two or three.



To finish drywall . . .

. . . insist on taping and spackling tools. This taper lays and beds tape three times as fast as a man with a hand knife—and does a better job. Spacklers for joints and nail holes save just as much time.



To drive screws . . .

. . . use a spiral ratchet screwdriver. It's the least appreciated tool in the tool box. It makes six turns to a hand screwdriver's one, is much less tiring, lets a man drive twenty times as many screws in a working day.



To trim counter tops . . .

. . . use a laminate trimmer. Because it is designed for this single job, it adjusts for different cuts quicker, gets into corners that a router can't reach, can cut your finishing time 50%.



To move your trees . . .

. . . use a special rig like this front-end tree transplanting bucket. It digs the new hole, digs up the tree, moves and replants it. You can move three trees an hour, cut moving costs to $10 a tree.



To keep track of costs . . .

. . . take advantage of automatic dataprocessing or machine accounting systems. They can do in an hour what takes an accountant a week, and they can give you cost figures you can never get with manual systems.



To finish grade . . .

. . . use a specialized tractor attachment like this combination rake. It breaks up and levels earth in one pass, can do a better job in half an hour than two men with rakes could do in two days.



H&H staff

New rule No. 7:

Don't plan, build, finance, or sell any new house that will need to be repainted in less than 10 years

The paint makers say that since World War II they have made more progress and learned more new ways to make better paints than in all previous history.

But the paint makers have been so sales-happy in the high markup repainting market (mostly do-it-yourself) that they have spent hardly a dollar to tell the new-house industry anything about their new products and how to use them. And the painters (too many of whom live by using inefficient tools to apply short-lived finishes) have had no good reason to spread the word of paints that will cut the repaint market in half.

So architects and builders go on complaining that bad paint is their No. 1 headache, because not one architect or builder in 100 knows how to get a better job with the new paints. Lenders go on financing houses whose No. 1 maintenance cost will be paint, because not one lender in 100 knows enough to insist on paint that will almost outlast the mortgage. And realtors go on saying as little as possible about paint, because not one realtor in 100 knows that freedom from repainting could be a most effective talking point for buying a new house.

This is without doubt the worst failure of communications in all the history of housing. It is so bad that last year all the architects, builders, lumber dealers, and manufacturers at the HOUSE & HOME Round Table on the Use of Wood in Tomorrow's House were unanimous that bad paint is the No. 1 threat to the future of wood.

Here are the most important facts you need to know:

You can buy many components with new long-lasting finishes

Specifically . . .

1. You can buy aluminum siding with a colored factory finish guaranteed to last 30 years (see *p 142*).
2. You can buy asbestos-cement siding with a factory finish guaranteed to last 15 years (see *p 142*).
3. You can buy wood siding with a factory finish guaranteed to last 15 years (see *p 142*).
4. You can buy doors and windows with a factory finish guaranteed to last 15 years (see *p 174*).

You can use new paints guaranteed to last at least ten years and probably 15

The news about paint is too big and too long to detail here. It involves a whole new chemistry of paint, with new plastic mediums instead of oil and new titanium pigments instead of lead. There are acrylic paints, latex paints, alkyd paints, epoxy paints, urethene paints, polyester paints, vinyl paints. All are better for some purpose than any of the old paints.

Most cost more than old-fashioned paints. And all of them are worth more.

Here is what each new type of paint is best for:

FOR EXTERIOR WOOD SURFACES, use the new acrylic paints. They offer service life up to 15 years when used on new wood and you don't have to wait for dry weather to apply them, because they "breathe" and let moisture out of the wood without blistering. (The first acrylics called for oil-base primers that had all the drawbacks of oil-base paints. New formulations use acrylic primers.)

FOR A NATURAL FINISH, use a penetrating preservative stain. It will weather well.

FOR INTERIOR WALLS, use new one-coat solid or new low-odor multi-color spray paints. They are made of butadiene styrene or vinyl toluene resins or latexes or alkyds. Latex paints offer easier clean-up; the resins and alkyds give more durable surfaces.

FOR CONCRETE AND BLOCK WALLS, use new polyester or epoxy paints that leave a surface that looks like tile. They are not cheap, but they will give you a clean, lasting, sanitary finish for much less than you could get such a fine appearance any other way. Or for general concrete painting, use breathing polyvinyl acetate paints.

FOR FLOORS, use new urethane varnishes or plastic lacquers. Both go down fast and dry fast, so you can build up a thick film quickly. And they wear like iron.

FOR METAL SURFACES, use an epoxy paint. Its ability to bond with metal is almost unique. Two-component epoxies contain little or no solvent and form a solider coat, but their pot life is so short (two days) that they must be batch mixed. One-component epoxies are solvent-thinned, so they have a longer pot life.

You can apply your paints with new spray guns for very much less

Labor is the most expensive thing you have to pay for and using high-production painting tools is one of the best ways to cut job hours.

ALL THE NEW PAINTS CAN AND SHOULD BE APPLIED BY SPRAY GUN WHEREVER POSSIBLE. One man with a spray gun can paint the outside of any one-story house in half a day. Bill Levitt painted the whole inside of one 6½-room Levittown, N.J. house in 45 minutes. Some of the new paints—the high-viscosity paints for airless spraying, for example—can only be sprayed on. "These are the best paints sold," says Andy Place. "When you specify them you know your painter can't waste time with a brush."

DO ALL THE PAINTING YOU CAN IN THE SHOP. You can use bigger and better equipment in a spray booth and do it with line production. You can use high-pressure airless or hot-spray guns, or flow-, roller-, or dip-coaters. Florida Builder Charlie Cheezem shop primes all his finish lumber—soffits, fascia, jambs, gable ends, trim—and saves $20 a house.

AT THE JOB SITE, USE THE NEW COMPACT AIRLESS SPRAY GUNS. You can now get models small enough to be portable but efficient enough to make big savings. Airless spray cuts overspray, reduces clean-up, limits the need for masking, and lays down a heavier paint film in one pass. Or, if wind causes too much overspray, use pressure rollers like Phoenix Builder John Long. They are not as efficient as sprays but they are many times more efficient than brushes.

Phillips



Spray parts in the shop . . .



spray walls on the site or . . .

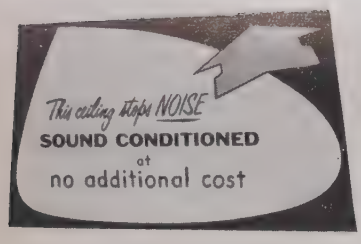
Markow



use a pressure-fed roller.

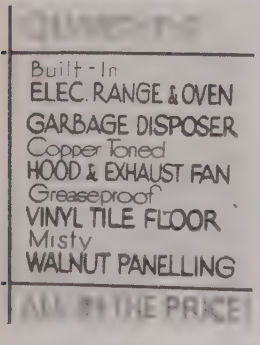
New rule No. 8:

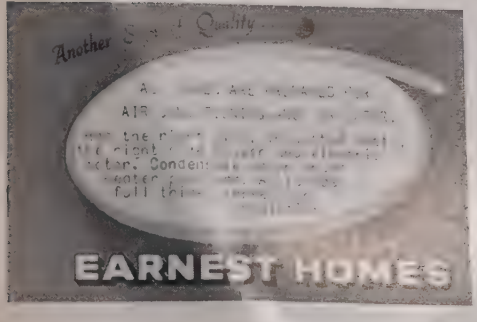
Build your houses complete—and good











Almost anything and everything homebuyers add after they move in will cost them twice as much as it would have cost the builder to include during construction; and so will everything, without exception, that they have to replace because the original product was not good enough or big enough.

So the one best way to offer a better value for less cost to the buyer is to include in the house everything the buyer seems sure to need. That means, for example and specifically:

Include air conditioning: "Wherever summers are hot, any house built without air conditioning will soon be obsolescent almost everywhere," says FHA Commissioner Hardy. Adding central cooling to a good forced-air heating system should add less than $500 to the first cost of a merchant-built 1,500 sq ft house, thereby adding say $30 to the down payment and $3 a month to the carrying charge. It might well cost the homebuyer $1,000 to add later, payable $200 cash and $30 a month on high-cost consumer credit.

Include adequate wiring: Homebuyers must often spend $100 the first year for additional wiring that would have cost the builder less than $10 while the house was being built, according to a survey by Detroit Edison.

Include all the appliances: Rangetop, oven, disposer, dishwasher, exhaust fan, refrigerator, freezer, appliance center, and laundry. They cost one-tenth as much to install during construction, they can be financed under the package mortgage for less than $150 down and $5 a month, and they cut the cost of selling the house. Builders can buy them for 30% less than consumers (unless the consumers are rich enough to pay cash)—and FHA requires no more income to buy a $15,000 house with all the appliances included than FHA requires to buy a stripped-down version of the same house without any appliances at all!

"Nobody expects to put his old radio and his old turning signal in his new car," says Harvey Kayne, builder of Maryland City, "and nobody should have to move his old appliances to his new house. This is the best chance he will ever have to get a bargain in new appliances with 30 years to pay for them."

Include wall-to-wall carpet, curtains, and drapes: Within the first year they cost most homebuyers up to five times as much as the down payment, and worry over what they will cost is one of the biggest reasons 19 out of every 20 model-house lookers decide not to buy. FHA will not finance them for fear of the retail furniture dealers' lobby; but most savings and loans (who provide almost as much mortgage money each year as all other lenders combined) are glad to finance them as part of the house. Smart builders often make a deal with their local rug and drapery dealers to get these essentials 30% off; and wall-to-wall carpets cost much less if the house is planned so the room will fit the standard widths in which carpets are made—9′, 12′, or 15′.

Also . . .

Include adequate insulation (which will always pay for itself), screens (often a scandalous racket for suede-shoe operators), lavatories big enough to wash your face in (they cost only $6 more than what most builders buy), long-lipped reverse-trap toilets (less than $10 more), locks with a safety catch to keep burglars out ($1 more), long-warranty water heaters ($10 more, but $200 cheaper over ten years), etc, etc.

FHA requires less income rather than more to buy homes built and equipped with quality, low-maintenance products that will make the house cost less to live in.



Now let's look at the better-for-less news in each part of a good house

crawl space ..... p 134

flooring ..... p 136

partitions ..... p 138

exterior panels ..... p 140

studs ..... p 141

wall skins ..... p 142

drywall ..... p 144

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roofs ..... p 148

attic vents ..... p 150

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2-story houses ..... p 158

bathrooms ..... p 160

comfort ..... p 169

wiring ..... p 172

doors ..... p 174

windows ..... p 176

The better-for-less news about floors and foundations is:

Crawl space can now cost less than slabs, because. . .

You can now buy all your components for crawl-space floors and foundations prefabricated, whereas slabs must still be poured in place.

So smart builders are finding ways to cut their crawl-space costs 25% below 1958 (nearly $500 for a 1,500 sq ft house), whereas slab costs are still the same.

For crawl space foundations, you can buy precast prestressed concrete grade-beams 4″x24″ as long as your house. Builder Andy Place pays the local concrete plant $1.65 per linear foot for them.

Or you can buy steel bar-joists for your foundations and put them together like an erector set. The NAHB Research Institute is working on the costs and details of such a quick and easy system, enclosed in an insulated asbestos-cement skirt. (For details of these alternatives see opposite.)

For the under floor structure you can buy house-width junior steel beams. Andy Place pays 40¢ a linear foot for them installed, including wood nailers and clips and says the steel costs less than any other material that would work as well. Space them 4′ oc and support them at two intermediate points.

For the floor you can buy your choice of at least four panel systems—all new, all good, all using plywood or plyplank, all cheaper than conventional floors (see *p 136* for details of each system). In one of them the panels do double duty as both structure and subfloor; in two of them the panels do double duty as subfloor and finish floor.

With these component systems you can now finish both your foundations and your floor in a single day, instead of weeks. And your crawl-space construction will offer several by-product savings and advantages, including:

1. Some small savings on your plumbing.
2. Some small savings on your wiring (because of shorter home runs under the floor than through the ceiling and easier passage under doors).
3. A sizeable installation saving on heating by using the crawl space as a plenum.
4. Perhaps a sizeable saving on grading if the house sits on a slope (this may also permit some usable under-floor storage space).

In most places buyers prefer crawl-space houses because they think their floors are easier underfoot; but don't build crawl-space if you are worried about water conditions. Some crawl-space houses sit over damp and stagnant lakes; on those sites a well built slab would be dryer.

Here are ten good rules for better crawl space

1. Get a soil analysis and engineer your foundations. On most soils this will let you space your piers further apart or [illegible] by with four shallow corner pads 2′x3′ and one intermediate pad in each bearing wall 2′x5′. Without the engineering FHA will require piers 8′ o.c.

2. Set your house low by supporting your [illegible] joists on steel hangers, so the top of the joists will be flush with the top of the [illegible] beam. There is no reason why a crawl-space house should stick up out of the ground any higher than a slab.

3. [illegible] shallow depressions for the pads that will support your interior piers.

4. Cover the ground with a 4-mil poly ethylene vapor barrier. This comes in widths up to 20′. Just overlap the sheets 6″ where they meet.

5. Pour the pads for your piers *on top of the vapor barrier.* That way you won't have to waste time cutting and fitting around the piers. Use a stiff concrete mix.

6. Use solid 8″x8″x16″ concrete block for the piers and push them into the pads. Use a house-width jig to make sure the tops are all the same height as the joist hangers.

7. Provide outside light and air. Daylight [illegible] electricity. Use vents that can be [illegible] in summer and closed in winter. Put them near the corners for better cross ventilation.

8. Nail or glue rigid installation to the foundation before you set your floor joists. It will never be so easy later.

9. Provide outside access. Don't mess up your floor framing for a little trap door. Where grade allows it, a 2″ concrete slab of excess ready-mix will provide extra bulk storage under the house at minimum cost.

10. Heat your crawl space. Close the vents in winter and leave heating lines uninsulated. This will help give you a warm floor and a dry crawl space. Some builders use the crawl space as a plenum and save up to $50 on their ductwork.

If you still build slabs, you will find 17 good ways to get better slabs for less in our September '58 issue. They are still as true as ever.

H&H staff



GRADE BEAM is lifted from truck by special tongs on loader bucket.



STEEL FINGERS cast in beam are spot-welded to pier tie-bar.

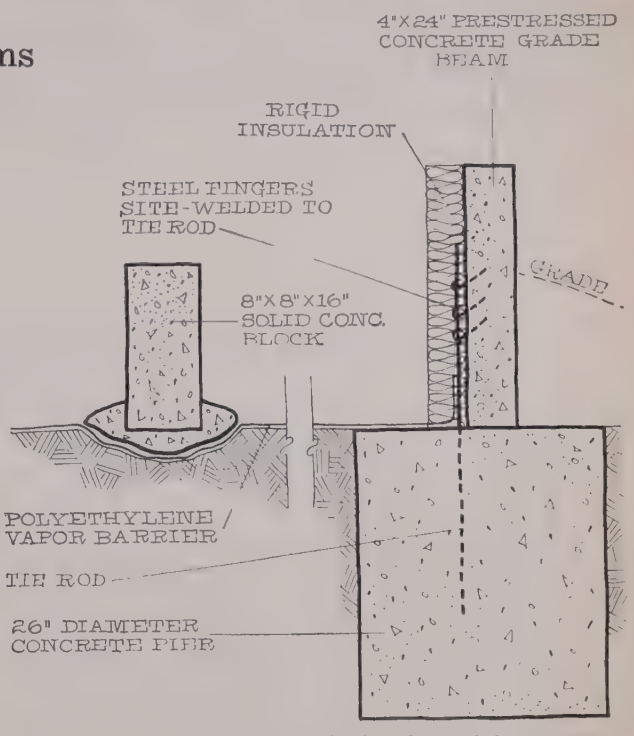
You can use prestressed concrete grade beams

They'll give you all the advantages of off-site fabrication: stable costs, good quality control, and a weatherproof job. And they'll speed up your site work. Andy Place, whose grade beam is pictured here, sets his foundations in a morning, has everything ready for his flooring system (next page) in one day. Total cost: less than a slab by 3¢/sq ft.

Place's biggest gain is in his winter building. He now invests less than $100 a house (in site-skinning and piers) to be ready to build houses in midwinter, compared to over $800 per house for a slab, (or as much as $1,200 for that same slab if it has to be poured and cured under a heated tent).



CONCRETE BLOCKS, intermediate support for joists, are set to lines.



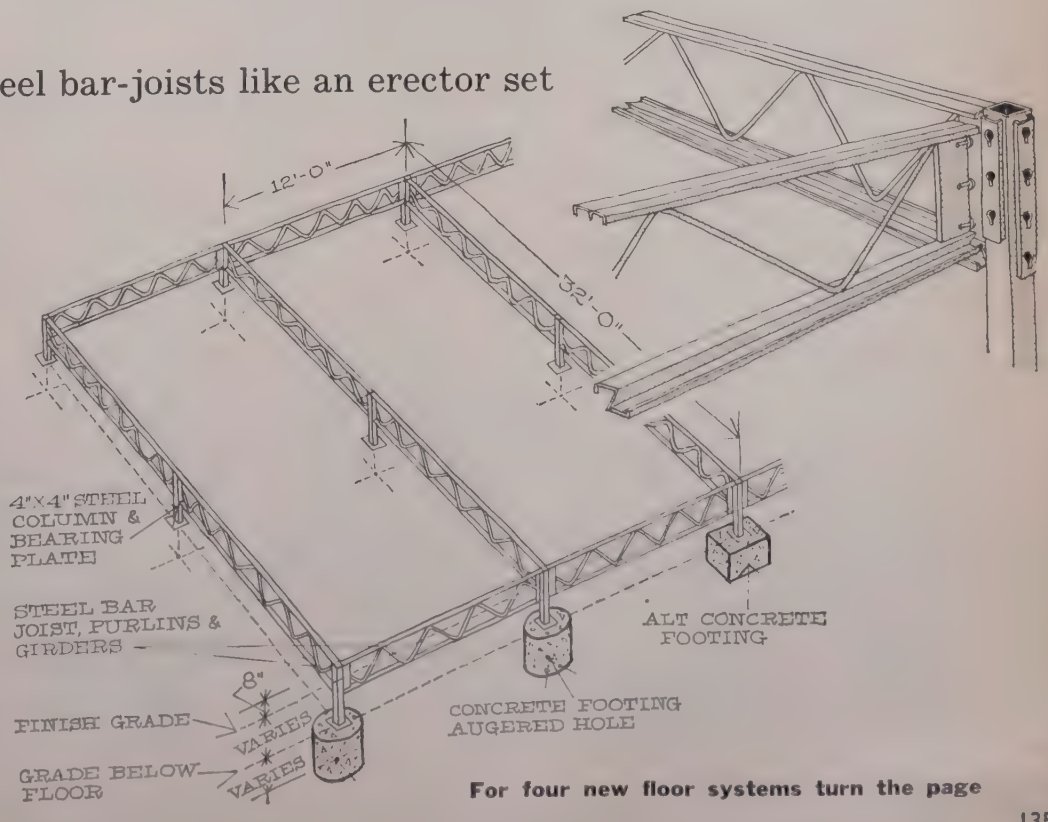
CROSS SECTION shows piers and footings for grade-beam system.

Or you can assemble steel bar-joists like an erector set

This system, being developed by the NAHB Research Institute, substitutes steel bar girders for the traditional masonry foundation. Steel posts are set in pier footings, and the steel girders hang on them much as side-rails hang on a bed headboard (see detail, right). An insulated asbestos-cement skirt encloses the crawl space. A single row of piers (down the middle) gives sufficient center support for a 32′-long girder.

The Research Institute estimates the new system will cost as follows: footings, skirt, and insulation, 12¢/sq ft; steel framing, 40¢/sq ft—a total of 52¢/sq ft in place.

Any flooring system can be laid over the new foundation—conventional joists 16″ oc, or one of the new single-layer systems shown on the next two pages.



For four new floor systems turn the page

These four floor systems have in common less layers, less parts, less time, less cost

They may cost more for materials, but they save twice as much on on-site labor.

Each system has its own advantages. Which costs least will vary from place to place—depending on availability, shipping costs, or local competition.

All four systems: 1) form the deck fast with big sheets; 2) use thicker or reinforced material to permit wider spans; 3) use heavier joists spaced farther apart, and 4) let the house be set lower to the ground. (But if you use joist hangers or foundation pockets to get this low look, be sure your joists are made of steel or plywood box beams. Dimension lumber will shrink, while the foundation walls will not, and the result will be bad gaps between the flooring and the joists all around the perimeter of the house.)

Three of these floor systems were engineered for the housing industry by the Douglas Fir Plywood Association, the fourth by a big lumber company.

You can buy prefinished oak veneer on 1 1/8″ plywood 4′ x 8′

Andy Place uses a version of 2-4-1 flooring in the method shown below. It gives him these advantages:

A single layer system that combines flooring, subfloor, and enough structural strength to span 4′ between beams.

A whole floor system made of these five components: steel beams (which cause no shrinkage problems), wood sleepers, clips to hold the sleepers, steel beam hangers, and the plywood.

A fast system that a four-man crew can complete before lunch.

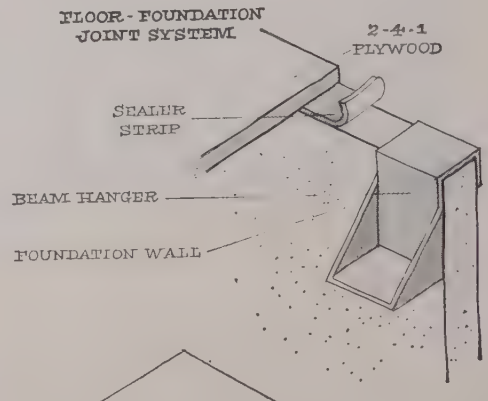
A low-cost system which, combined with Place's precast grade beam (*p 135*), gives a foundation-to-floor cost of $1.10/sq ft for oak flooring, or —if fir plywood and asphalt tile flooring are used—a cost of 82¢/sq ft, 3¢ cheaper than his slab-and-asphalt cost.

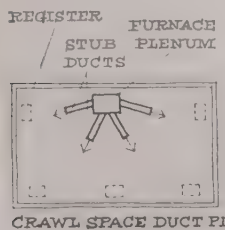
(Place spent years perfecting his slab, has worked on this system only a few months. "We should be able to squeeze still more water out of it," he says.)

The 1⅛″ oak plywood is available in 4′x4′ sheets at 55¢/sq ft, and the fir plywood in full 4′x8′ sheets at 27¢/sq ft. Both have t&g edges (see drawing at left) to eliminate the worst feature of the original 2-4-1 floor system: the blocking needed every 4′ between beams.

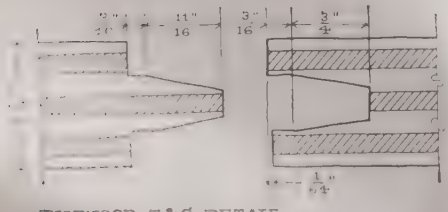
Place's floor uses 1⅛″x6″ I-beams that weigh 4.4 lb. They are dipped in asphalt to waterproof them, and also to eliminate any squeaking between the beam and the 2x4 sleepers on top. The steel beam hangers are also dipped in asphalt. They are then hooked over the top of the grade beam. Any discrepancy in height is taken up by a compressible fiber-glass sealer strip (drawing, right).

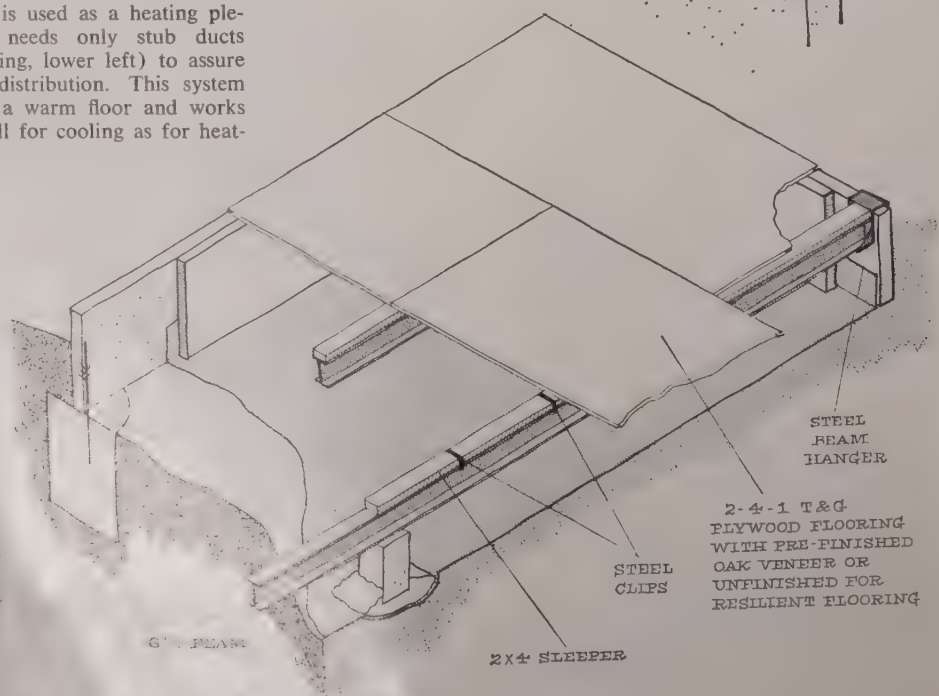
Another cost saver: the crawl space is used as a heating plenum, needs only stub ducts (drawing, lower left) to assure even distribution. This system gives a warm floor and works as well for cooling as for heating.





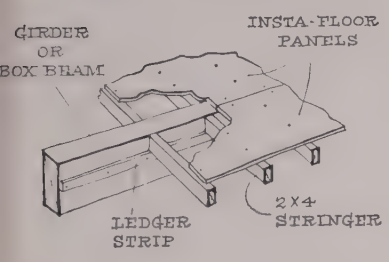
CRAWL SPACE DUCT PLAN


PLYWOOD T&G DETAIL



Or you can use 3/8″ plywood reinforced with stringers

The stringers are stapled to the under side of a 4′x8′ sheet (photo, right) 16″ oc. The 2x4 stringers rest on ledgers nailed to the side of the floor girders, while the plywood is lapped over the girder (drawing, below). One end stringer projects beyond the panel to serve as blocking. (This stringer is missing in the photo above, since the panel end will rest on the center girder at right).



Basically, Insta-floor is like 2-4-1: both use full 4′x8′ sheets of subfloor, supported by girders 4′ oc; both are self-blocking, and both were developed by DFPA. The big difference lies in materials cost: an Insta-floor panel made with ⅜″ plywood may cost 10¢/sq ft less than a 2-4-1 fir panel.

FHA permits ⅜″ plywood subfloor under strip flooring, otherwise requires ½″ plywood.

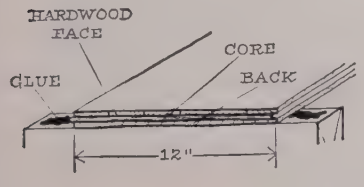
Insta-floor goes in as fast as 2-4-1. Builder George Osborne, Chehalis, Wash. staged a demonstration, laid 1,700 sq ft of subflooring with a four-man crew in just ten minutes. In his regular operations, Osborne finds Insta-floor up to 17¢/sq ft cheaper than conventional floor.



Or you can buy hardwood flooring laminated to long plyplanks

This gives you the look of strip flooring in a single-layer floor system. And it also gives you the big pieces (12″ wide and up to 20′ long) you need to get the floor down fast.

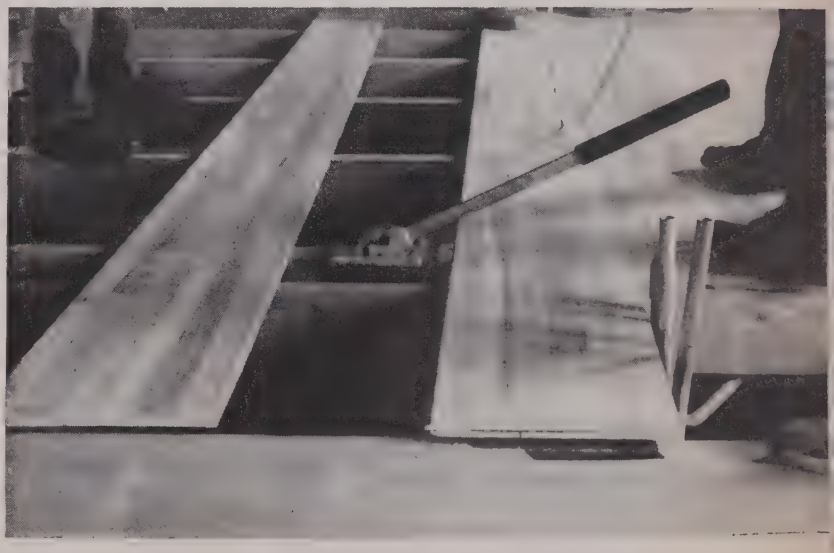
Like 2-4-1 and Insta-floor, this flooring is heavy enough to allow floor beams to be widely spaced: ⅞″ thick flooring is approved for beam spacing up to 36″; 1 5/16″ flooring for beams 4′ oc (although tests have shown it adequate for up to 6′ oc).



Planks retail for about 42¢/sq ft, depending on the locality. Cost of installation is 4¢ to 5¢/sq ft, and one man can lay about 800 sq ft a day.

Planks have t&g edges, and are blind-nailed in the same way as conventional strip flooring. They can be applied with nails alone, but the best practice is to put adhesive on the floor beams before nailing. This gives an absolutely rigid floor structure, and is assurance against squeaking floors.

Joints are broken over beams, and usually staggered about one-quarter the length of the plank. But since standard lengths are 8′, 12′, 16′ and 20′, it is possible to layout the house so that all joints will fall under partitions.



Or you can buy long double-duty stressed-skin panels

These panels act both as a subfloor and as their own structural support (the 24′ panel shown at right has two clear spans of about 11′). And in multi-level houses the bottom skin makes a smooth finish ceiling.

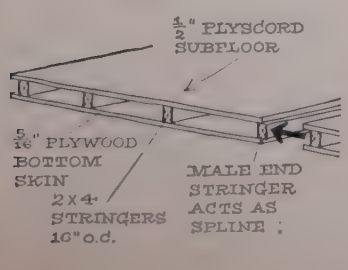
The panels are big, so they go down fast. With the panel at right, you would need just ten pieces for a 1,000-sq-ft house. Framing members on the male end serve as splines to the adjacent panel (see drawing, left).

And because they go down fast, they are inexpensive in place. A typical panel will cost 65¢/sq ft to buy, but can be installed for as little as 5¢/sq ft.

They are strong. Because they make a continuous structure across the center girder, they are about 20% stronger than 12′ butting panels would be.

The panels give you a low-looking house because joists can be much thinner (those in the panel shown here are 2x4s and you can keep the floor near the grade line without making beam pockets in your foundation.

If you want an oak flooring surface on the panels, or on the Insta-floor system, the cheapest way to get it is with one of the several new flexible ⅛″ thick floorings that can be laid with adhesives like resilient flooring.





The first better for less news about interior walls is:

New factory-made partitions like these can save you as much as $500 a house



Three years ago there were no factory-made interior partitions you could buy cheap enough to compete with local jig-made panels—or site-framed tilt-up partitions.

Today at least a half dozen manufacturers, including some of the very biggest, have developed prefab panel systems that can save you money because they cut out so much on-site labor. All these systems can cost you less in place than site-assembled walls faced with the same materials.

These new panels fall into two classes:

1. *Low-cost panels faced on both sides with gypsum or unfinished hardboard.* These cost as little as 19¢/sq ft in carload lots. They require joint taping and spackling, battening, or one of the new one-day, hard-finish, wall-and-joint coatings (see *p 142*). And they have to be painted or papered.
2. *High-cost panels prefinished on both sides.* They cost up to $1-and-more per square foot but cut total costs because they eliminate site finishing. Joints are treated as decorative elements (see *p 118*). Some of the surfaces are very handsome but the choice of materials, colors, and textures is still limited.

The unfinished systems eliminate most of the nails from vertical joints (which cuts spackling time and reduces nail popping). The prefinished systems hide the nails at floor and ceiling with prefinished mouldings so there is almost no touching-up of fastenings or joints.

Most of the new systems work only as interior curtain walls—and must be used in houses with clear-span roofs (see *p 146*) or in two-story houses framed without interior bearing walls (see *p 158*). And they all meet these requirements for easy erection.

1. *They fasten to the floor and ceiling simply.* They slip over runners, or they nail to the floor and ceiling through built-in top and bottom splines.

2. *They join edge-to-edge quickly.* They have t&g joints or slip over simple metal or wood splines.

3. *They form corners wherever needed* with minimum cutting, fitting, finishing, or extra parts.

4. *They fit any length of wall.* Most are easy to cut and their simple splines (if any) can be inserted at a site-cut seam. One system (see pictures at right) has an adjustabble joint and a prefinished spline.

5. *They take a door anywhere along the wall.* They all work with 6′8″ or 8′0″ ceiling-high doors. Some systems include doors; all will work with prehung doors with split jambs or with the new snap-in metal door frames of the right thickness (see *p 174*).

6. *They resist the passage of sound.* All the new systems are at least as good acoustically as ⅜″ drywall on studs, and some are far better.

7. *They adjust to variations in floor-to-ceiling height.* All have a tolerance of at least ½″ top or bottom to adjust to the unevenness that exists in almost all houses (due to uneven truss camber, uneven slab, or unevenly set crawl-space piers).

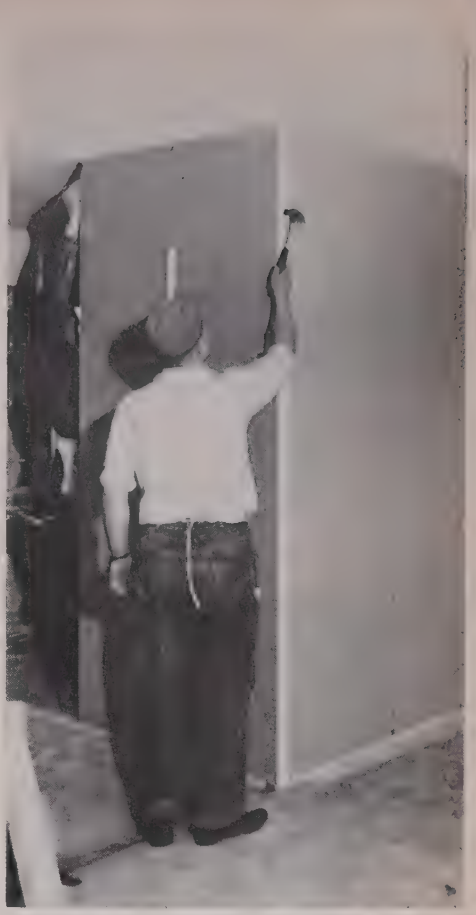
Here is how a prefinished partition system goes together



PARTITION PANEL sits on floor runner, is nailed directly to ceiling through top rail. Wide joints between panels accentuate panelized look.

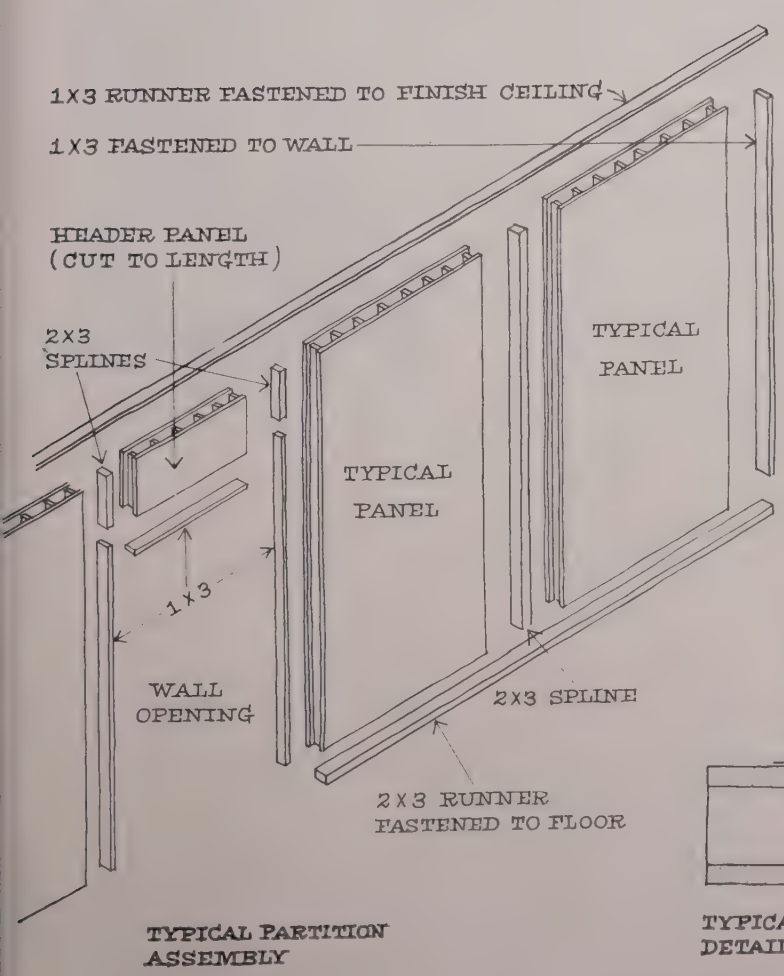


SPLINE fits into recessed edge. It has same surface as panels, is ripped from 4′-wide sheet, can be as wide as desired to stretch out wall.

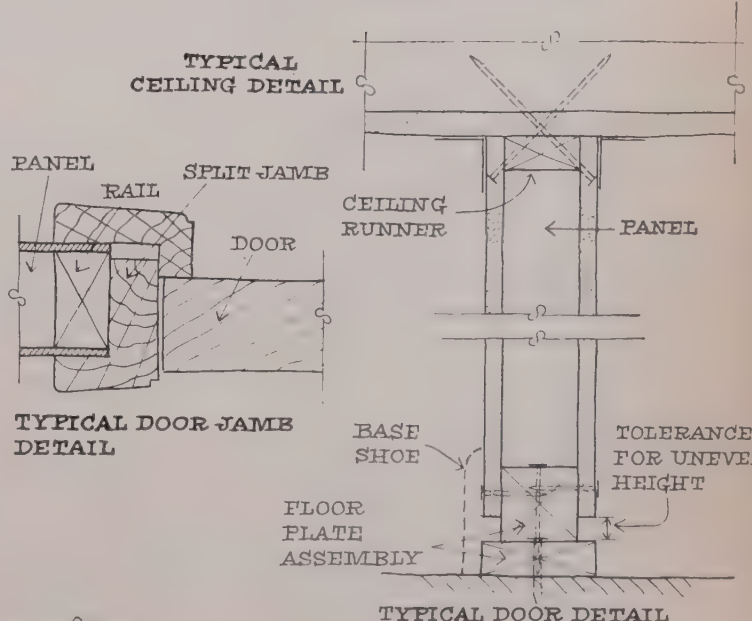


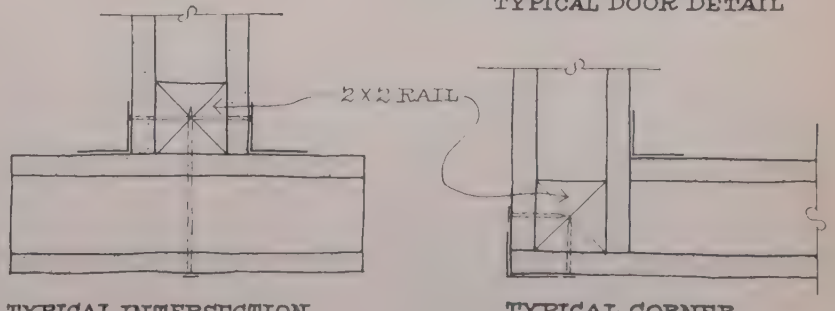
CORNER STRIP is nailed over exposed edge of panel to finish off outside corner. Prefinished base covers nails at bottom of partition.

Here are assembly details taken from unfinished partition systems



TYPICAL PARTITION ASSEMBLY





TYPICAL INTERSECTION DETAIL

TYPICAL CORNER DETAIL



The better-for-less news about exterior walls is:

New panels promise any builder some saving and promise some builders a lot of saving

Three years ago no manufacturer made skin-to-skin exterior panels. Today two very big companies are test marketing them (H&H, Oct '60 and Apr '61) and half a dozen more are getting set to follow.

All these systems will offer far more than today's shopbuilt panels, which include just studs and sheathing. The new panels are a one-piece substitute for siding, sheathing, framing, insulation, vapor barrier, and interior wall—the six structural layers of a conventionally built wall.

Both of the systems on hand use 4′x8′ stressed-skin panels. Both have ways of hanging doors and windows that get rid of job-site fitting. Both are easy to cut on the site to fill off-modular spaces. And both need only joint treatment and paint to be completely finished.

Some of the upcoming systems won't even need to be site-finished—exterior and interior faces will come prefinished, or have the finish built in. And one future panel system may eliminate the foundation wall: NAHB Research Institute is testing a long stressed-skin panel (really a big box beam) that will rest directly on piers.



NAHB PANEL is tested in laboratory. It is designed to rest directly on piers.

These new panels should permit a substantial cut in the direct cost of exterior walls. Here's how:

1. Crews can be small. Two men can easily handle the 4′ panels (they weigh about 80 lbs), can complete the exterior wall of an average house in a morning.
2. Houses go up faster, so one supervisor—the highest paid man on the job—can oversee more houses.
3. There are fewer parts, and less site labor per part; so there will be less chance for costly mistakes. Even if your crew put all the exterior walls up backwards it would cost only about $50 to turn them around.
4. Material quotations are low enough—from 65¢ to 75¢/sq ft—so that their in-place costs can be lower than the in-place costs of conventional walls (which run from about 80¢ to over $1/sq ft). Quantity-production costs (no system is in volume production yet) should be 15¢ to 20¢/sq ft lower.

And the panels will save on indirect labor and overhead. Faster building means cheaper financing and insurance, and simpler inventory cuts office work.

The better-for-less news about stud framing is:

1. This new batt can just be stuffed between studs to cut wall insulation labor cost 75%

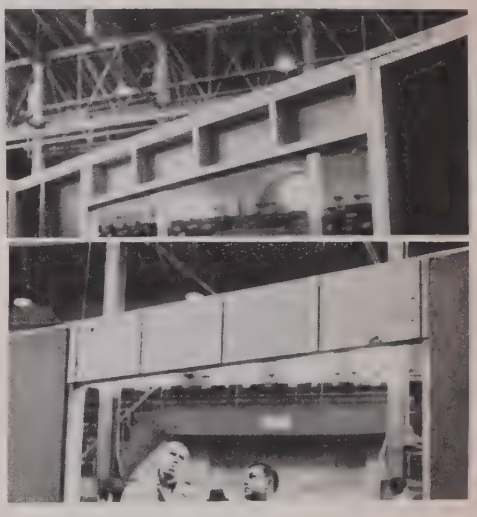


Friction alone will hold it in place for good, without any need of kraft or foil backing or any need of nailing. The long fibres are so resilient that even in a ceiling the batt sticks so well that hitting the joists with a hammer once a minute for weeks did not budge it.

Material cost is the same as kraft-backed insulation, but installation cost is minimum. With friction-fit batts, one man needed only 32 minutes to insulate all the walls of a 950 sq ft house.

Photos: H&H staff

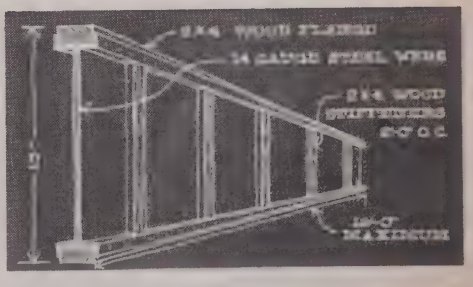
2. This plywood box-beam over your openings can save the cost of a double 2x6 header



Three years ago the best and cheapest way to save the cost of individual headers over windows and the cost of jack studs to support them was to top all the bearing wall studs with a continuous double 2x6 header, which FHA approved to span any opening up to 5′6″ in one-story houses. For a 40′ bearing wall this costs $3 more for lumber, but it saves twice as much on labor by eliminating framing over openings. Only trouble was the 2x6 header itself was a tricky thing to build on top of the studs, thereby wasting much of the carpenter labor it saved.

So now the Small Homes Council has come up with an even better idea: Just glue-nail your regular plywood sheathing to the framing members over the opening to form a box beam. Then all you need is the easy double 2x4 plate all around, with no extra lumber cost at all and no extra labor cost.

3. This steel-and-wood header can save $12 in garage door framing



It is made of two 14-gauge steel sections (see detail) combined with 2x4s, and it will carry the roof load of a 28′ truss house over a 16′ garage door opening. NAHB Research Institute, which developed the header, estimates its cost at $27—$6 less than a pair of 2x12s with a ⅜″ steel flitch-plate, and $15 less than a 12″ steel junior I-beam.

4. This insulation blanket can deaden upstairs footfalls for only 2¢/sq ft



Best way to muffle impact noise from above is wall-to-wall carpet, but this is the second best way and it costs very little. Just lay the blanket across the joists and nail the floor panels over it.

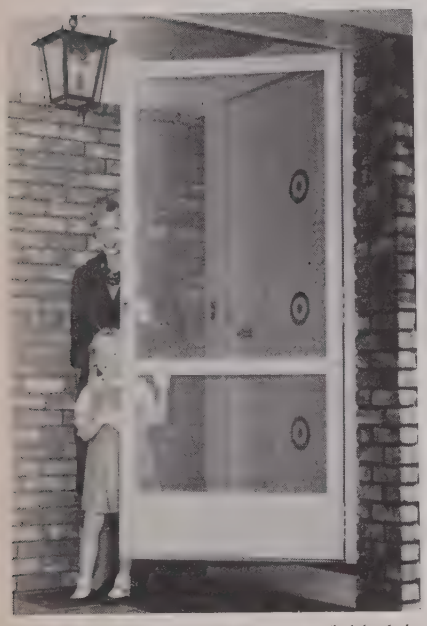
5. This little metal clip can save the cost of nailer studs at your corners



Clips replace backing studs in corners and at wall intersections, and they replace backer blocking above partition plates. They cost 4¢ to 5¢ each, so at recommended spacings (16″ oc for walls, 8″ oc for ceilings) they cost less to buy than studs. And since they are fastened with a single nail and require no cutting or fitting, they cost less to install than wood blocking. The maker says they can save $10 to $15 a house.

The better-for-less news about prefinished materials is:

You can now eliminate the high cost of site-finishing on virtually every surface of the house



ALUMINUM DOOR is factory prefinished in durable white enamel.



VINYL-COVERED GYPSUMBOARD looks like fabric-covered wall [illegible] wood-grained.

And you have a big choice of prefinished materials with which which to do it.

All these new materials cost less in place than the same items site-finished. Some of them cost less to buy than more conventional materials they replace. Some of them save construction costs by combining structural and decorative functions. Almost all of them will save money for the homebuyer in lower maintenance costs, and thus may qualify the house for a bigger mortgage under FHA. And, last but not least, many of them help make a more handsome house.

On the exterior, for example, the new all-redwood plywoods combine most of these virtues. They are water-repellent treated so they can be allowed to weather without further treatment. With ⅜″ thick sheets, sheathing can be omitted over studs 16″ oc; with ½″ thick sheet, sheathing can be omitted over studs 24″ oc. Redwood is rot and termite resistant so it will last a long time. And as many a California house testifies, redwood is handsome.

Aluminum is another example. You can use prefinished aluminum everywhere on the exterior—siding, soffits, fascia, trim, rain-carrying systems, roof, doors, and windows. And most aluminum products now come in long-lasting acrylic and vinyl finishes, the newest of which is polyvinyl fluoride (only in white at the moment) that the manufacturer guarantees for 30 years. And foam-, fiberglass-, or fiberboard-backed aluminum clapboards can be applied right on the studs.

Or you can clothe the whole house in asbestos cement—sheet and clapboard siding, fascias, soffits, trim, and roof—with new plastic finishes that will keep the colors fresh for years.

Other prefinished exterior products that offer more than one prefinish advantage include new prefinished fir plywood siding (only in rural red to start) that actually costs less than unfinished A-face exterior plywood.

Or you can save as much as $70 a thousand sq ft on installed cost by using preprimed siding—cedar, redwood, hardboard, or fiberboard. All of these are back-and-edge sealed and water-repellent treated and have a long-lasting neutral face prime. (Incidentally, under these sidings, you will usually need sheathing and you can now buy stronger, better insulation board than ever before. The new board eliminates the need for corner bracing, holds nails better, and is rated according to the new thermal rating system developed by the Insulation Board Institute.



ASBESTOS-CEMENT SIDING is striated to give a rough texture, and acrylic-coated to preserve color.



PRINTED HARDBOARD is one of many low-cost, prefinished materials with a wood-grain look.



PREFINISHED PLYWOOD has rough-sawn rustic look, is used here with battens to panelize the wall.



ALUMINUM CLAPBOARD needs no sheathing with foam, fiberboard, or fiberglass backing, says FHA.

And of course there are those old established prefinished materials—stone, brick, concrete, and tile. Brick and block can now be laid with new fast mortars, facing stone comes in new precut, clip-fastened ashlar patterns, and tile comes in large sheet-backed pieces for faster installation.

Inside the house, the range of prefinished wall surfaces is almost unlimited.

You can get prefinished wood (or wood-looking) paneling in vinyl-surfaced gypsumboard, in printed-grain hardboards, and in printed-grain plywoods that cost less than earlier prefinished plywood. Better, but more expensive, are today's improved prefinished plywood, today's super-satined plywood, and today's plastic-faced architectural plywoods.

You can get fabric faces to give a softer texture in low-cost vinyl-surfaced gypsumboard.

You can get bright colored and patterned finishes in melamine-coated hardboard and in high- and low-density plastic laminates. All of the major laminate makers now have a lightweight, lower-priced sheet just for use on vertical surfaces. They also have new fireproof types for counter and table top that may be exposed to cigarette burns, etc.

You can get translucent sheets of fiberglass-reinforced polyester and acrylic with a wide range of decorative embedments for use as dividers and screens.

You can get embossed and perforated hardboards in new decorative patterns.

You can get ceramic tile in bright new colors that match or harmonize with kitchen-appliance and bathroom-fixture colors and come in self-edging and self-cornering shapes.

You can get styrene plastic panels that go up in big seamless sheets to cover wet-area walls.

Inside the house, ceilings have become new decorative elements as producers bring out more and more perforated, fissured, and patterned acoustical and nonacoustical tile. Many of these have washable vinyl faces that will withstand years of wear. And many of them come in large sizes that speed installation. (See p 154.)

Also new are big sheet ceilings with vinyl acoustical faces that also act as insulation, modular ceilings that combine light and noise control, and many different types of plastic luminous ceilings. (See p 155.)

On the floor, prefinishing has been standard for years—in hardwood, resilient tile and sheet, and ceramic tile. But now you can also get prefinished, hardwood-surfaced, one-layer structural flooring. (See p 136.)



ALUMINUM BOARD-&-BATTEN is made from sheets fastened to plywood. Battens snap on.

Photos: Jack Lord



New hard coats need no joint tape . . .



can be troweled on . . .

The better-for-less news about drywall is:

You can finish and paint drywall the same day it is hung on the studs

Just when everybody thought the plasterers were washed up and wet plaster dead as the dodo . . .

The plasterers are coming back strong with a new way to finish drywall with a single thin coat of quick-drying hard-surface plaster. The sponsors say this process is six times as fast as spackling the nail dimples, taping the joints, and feathering the edges. So it can knock at least two days out of the fastest construction schedule. Three plasterers can finish the drywall as fast as three carpenters, working just ahead of them can nail it to the studs; and the painters can follow three hours later.

This new method started, not with the big gypsum manufacturers, but with small plastering contractors alarmed to see their business dying as drywall took over. Almost simultaneously a half dozen plasterers scattered from Tampa to St Louis and from Lebanon to Long Beach came up with the same big idea and began applying it on their own jobs. Each developed his own slightly different formula. Most of them require expensive high strength gypsum, most of them use a synthetic resin binder, some of them reinforce their plaster with spun roving; all of them use so little water that the plaster is dry enough to paint almost at once. Some of the sponsors recommend taping the drywall joints with reinforced plastic tape as a precaution. (This is a quick job, for the tape will be hidden by the plaster.) Some further recommend filling the crack behind the tape with the same strong plaster. On the other hand, some say their plaster is so strong no taping at all is needed. Some recommend a 3/16″ coat; others say the thinner the better, because a thin coat is more flexible and less likely to crack, so they recommend 1/16″. At least one plaster can be sprayed on. Most of them take either a smooth or a sand finish.



or power troweled.

As of September 20, FHA had "accepted" four of the new plasters and expected to accept more as fast as their test data are complete. Some installations have stood up for a year with less cracking than would have been expected with either wet



sprayed on . . .



finished rough or smooth . . .

plaster or conventionally finished drywall. The compressive strength is from two to five times the strength of ordinary plaster, depending on whether and how much lime is put in the mix. The surface is so hard that you cannot scratch it with a quarter; the silver wears away first. The hardcoat plasters stick better to backer-board than to drywall, because of the greater porosity and the rougher paper used. This may raise a jurisdictional row between the carpenters (who now erect drywall) and the lathers (who now erect backer-board)—a jurisdictional row that could end up with the builders deciding to stick to taping just to keep out of labor trouble.

Up to now, time is the only saving the new method assures, partly because none of the new hard plasters is volume-priced, partly because high-strength gypsum is more expensive—$44 a ton vs $18. Good plasterers average about 200 sq ft an hour, so the labor cost at $4 an hour is about 2¢/sq ft.

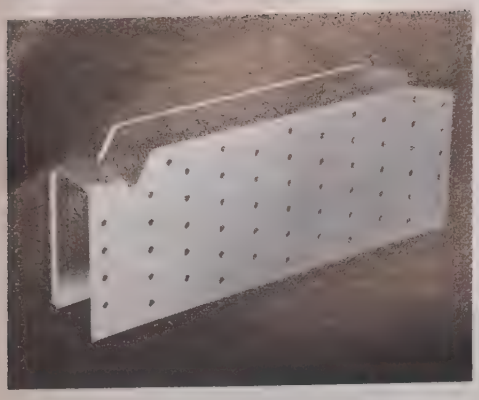
Glue nailing your dry wall can cut 2,500 nails from your walls and ceiling

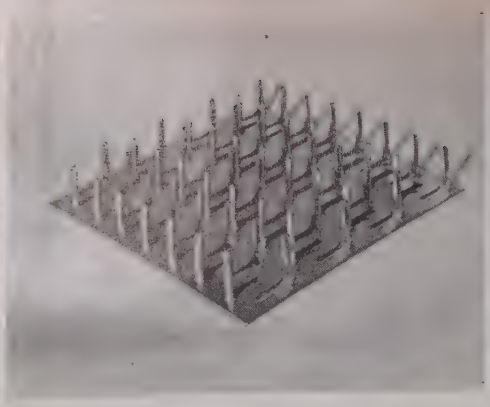
FHA and the Gypsum Association have now approved glue nailing gypsumboard. This is probably a new way to build better, because there are less nails to pop and the continuous bond should be stronger.

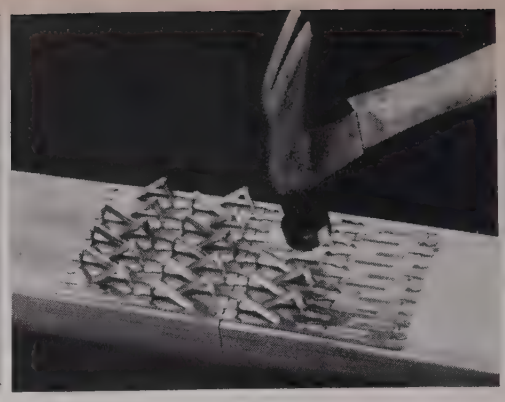
It is not so sure to be a new way to build cheaper, because running an inch of glue up the studs (glue cost: about $5 a house) takes about as much time as driving more nails and finishing them with a spackling machine.

Chart at right shows how many nails are saved.

LOCATION	STUD SPACING	SHEET SIZE	GLUE NAILING		CONVENTIONAL NAILING		NAILS SAVED PER SHEET	% OF NAILS SAVED
			NAIL SPACING	NO OF NAILS PER SHEET	NAIL SPACING	NO OF NAILS PER SHEET		
WALL	16" O.C.	4'x8'	24" O.C.	21	8" O.C.	49	28	57%
		9'x12'	24" O.C.	30	8" O.C.	70	40	57%
	24" O.C.	4'x8'	16" O.C.	29	8" O.C.	49	20	41%
		4'x12'	16" O.C.	41	8" O.C.	70	29	41%
CEILING	16" O.C.	4'x8'	16" O.C.	21	7" O.C.	56	35	63%
		4'x12'	16" O.C.	29	7" O.C.	80	51	64%
	24" O.C.	4'x8'	12" O.C.	29	7" O.C.	40	18	45%
		4'x12'	16" O.C.	41	7" O.C.	56	15	36%







The better-for-less news about trusses is:

Plates, jigs and presses like these make better trusses cheaper everywhere



PRECUT TRUSS PARTS save local fabricators as much as $1.75 a truss. They are strapped by West Coast mill for easier shipping and more efficient handling.

Trusses offer such big savings (see *p 112*) that no builder who knows his costs would dream of framing his roof any other way.

Three years ago there was still some excuse for old-style joists-and-rafters, because 1) in some areas nobody sold trusses, 2) in most areas trusses were overpriced because there was so little competition, and 3) most 1958 trusses were glue-nailed, and you could never be sure they had been made right. So three years ago less than 100,000 houses were truss-framed.

But now:

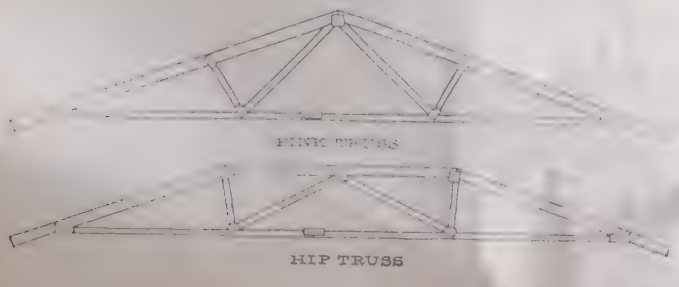
1. You can buy trusses from a nearby fabricator almost anywhere and everywhere.
2. You can buy trusses 25% cheaper, partly because competition is getting hot and partly because . . .
3. Most 1961 trusses are made with metal plates and many plates are stamped out to do double duty as both nails and gussets. Metal plate trusses take as little as four man-minutes to fabricate; they can be made in a jiffy anywhere and any time, whereas glue-nailed trusses must be made under controlled temperature and humidity conditions and must set overnight under pressure.

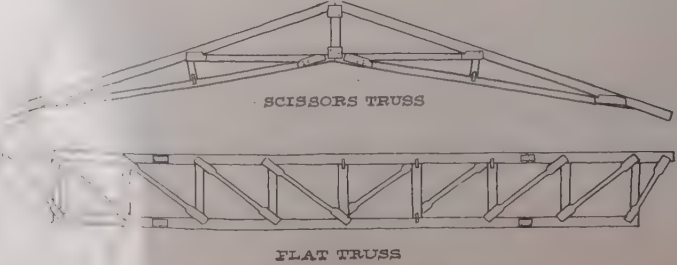
So this year 450,000 houses will be truss-framed—300,000 with metal plates, 150,000 with glue-nailed plywood gussets. (Glue-nailed trusses are just as good if made right, but usually cost more and can't be mass-produced.)

Next big saving on trusses will come from standardization, which will let everyone use the same lumber lengths and cuts for the six or eight most commonly used span-and-pitch combinations—24′, 28′, 30′, and 32′ spans (inside measurement), 3-in-12 and 4-in-12 pitches. The shift to metal plates makes this all the more important, because metal plates call for precise cutting and fitting, whereas plywood gussets work just as well with square cuts.

With standardization, wood members could be precut by the millions close to the lumbermills. This would make it possible to use inexpensive shorts and to save at least 6% on freight by shipping no waste. Even without standardization, one precutter in Oregon says he is saving truss makers in the Middle West 30¢ to $1.75 a truss.

Except in the worst snow-load areas, all trusses up to 28′ can be made with 2x4s and still provide limited attic storage over drywall ceilings. Longer spans with storage need [illegible] members. (Metal plates may need heavier framing than plywood gusset[illegible] which are bigger and thereby reduce the unsupported lengths.)



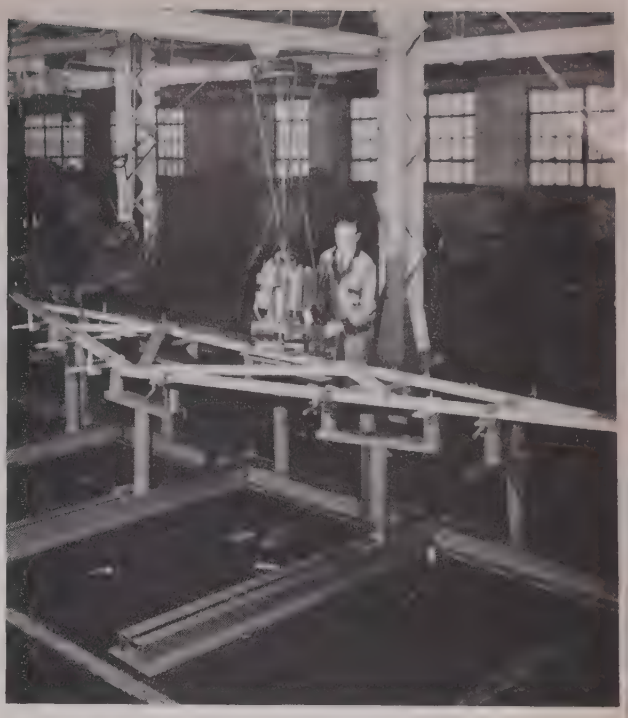




Here is a $50 jig . . .

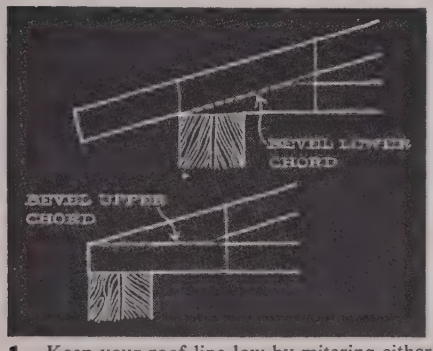


a $300 jig . . .

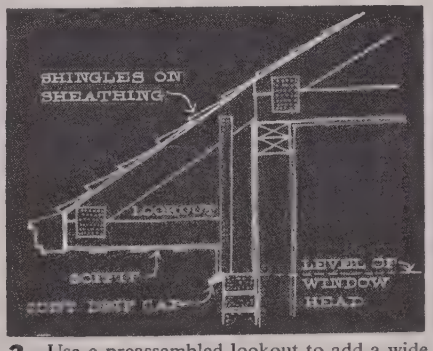


a $3,495 jig.

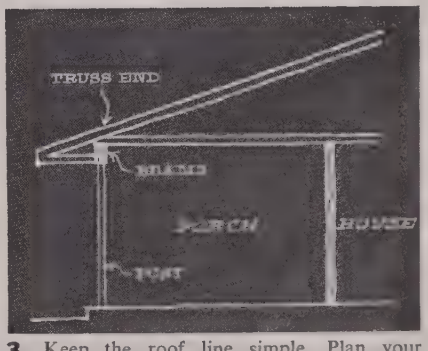
Here are the best ways to frame the eaves



1. Keep your roof line low by mitering either the top of the bottom chord or the bottom of the top chord. Otherwise your truss will lift your roof 4″ or 6″ higher than necessary. Almost all metal-plate trusses are made this way. Many plywood gusset trusses are not.

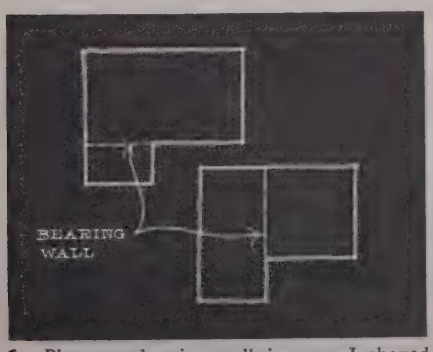


2. Use a preassembled lookout to add a wide overhang. It saves the extra cost of long top chords and keeps trusses short and easy to handle. Except on low-pitched roofs (2-in-12 or less) this is the cheapest and easiest way to finish eaves.

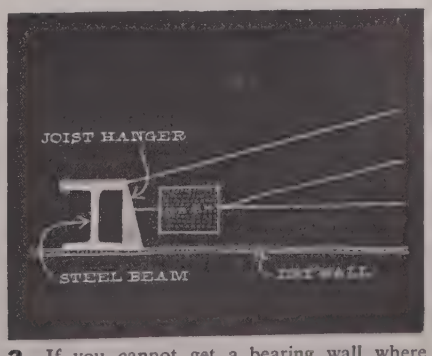


3. Keep the roof line simple. Plan your porches, passage and garage entrances, and entries so they all fit under one big roof without sheds or extensions. Then support truss ends on beams and posts as shown in the detail above.

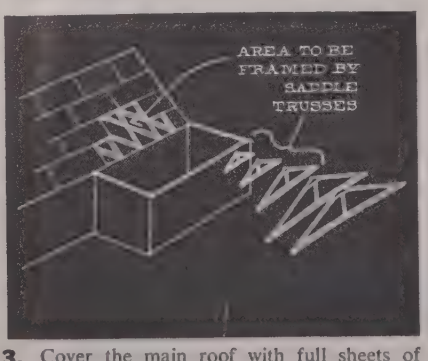
Here is the best way to truss an L-shaped house



1. Plan one bearing wall in your L-shaped houses. Then you can frame them economically with trusses. Most L-shaped plans lend themselves readily to an interior wall where the two wings meet. Most often it will run side to side across the L (see top drawing).



2. If you cannot get a bearing wall where you want it, span the narrower wing with a steel beam above the ceiling line and support a bob-tail truss on a joist hanger. A glue-nailed plywood box beam might be cheaper, if carefully engineered for the job.



3. Cover the main roof with full sheets of plywood—but leave out any sheets that will be covered by the saddle trusses. No matter what the pitch of the roof, you can frame it with 2x4 trusses, each 4′ shorter than the next, set 2′ oc on the main roof.



Architect: Eliot Noyes

The better-for-less news about roofs is still in the making

Never before has there been such experimentation in materials—rigid plastics, elastomeric plastics, glass laminates, wood laminates, lightweight concrete, tile, steel, copper, terne, aluminum, synthetic fabrics, foamed glass aggregates.

Never before has there been such experimentation in methods—lay-up, spray-up, precast, cast-in-place, laminated, molded, air-lifted, jack-lifted, or what have you.

Never before has there been such experimentation in form—barrel vaults, folded plates, domes, hyperbolic paraboloids, A-frames, Y-frames, delta-frames, flattops, bubbles.

Never before have so many architects, builders, and suppliers been seeking new ways to cure what's wrong with today's roof—too heavy, too impermanent, too many pieces, too small pieces, too many potential leaks. Roofs should be light to permit lighter walls, heavy to resist gales. They should be one big piece to keep out rain, many little pieces to expand and contract with changing heat and cold. They should be dark to absorb the sun's heat in winter, white to reflect it in summer.

So far nobody has come up with a new way to build better roofs for less money than you can build with better shingles (which last much longer but cost no more to install than lighter grades, so their only extra cost is for the better material).

No one can ever solve the roof problem without first solving the design problem of making the joints between bigger pieces look good instead of bad. Once that design problem is solved, the most hopeful material is Hypalon, factory-applied to plywood sheathing. This plastic is not damaged by sunlight or sun heat, costs only 5¢ sq ft for the material and almost nothing to apply in the factory. This is the material used three years ago in the NAHB Research house outside Washington. It was very cheap and very practical, but nobody liked its looks.

So right now there are only two new ways to cut the cost of a better roof:

1. Use plyclips to save the cost of edge blocking. This is the cheapest way to span 24″ between trusses with ⅜″ plywood. Without either plyclips or blocking FHA requires either ½″ plywood or 16″ truss spacing.
2. Fasten your sheathing with a power nailer, 50 nails a minute, four roofs a day. (This is much faster than anyone can lay the plywood ready for nailing, so divorce the two operations. Don't let the man with the nailer waste your time waiting for something to nail.)

Photo: Buzz Taylor



MULTI-NOZZLE GUN sprays chopped glass, a [illegible] resin, curing agents, and other materials to make a one-coat roof.

Architect: Eduardo Catalano. Photo: © Ezra Stoller



Architect: Victor Lundy



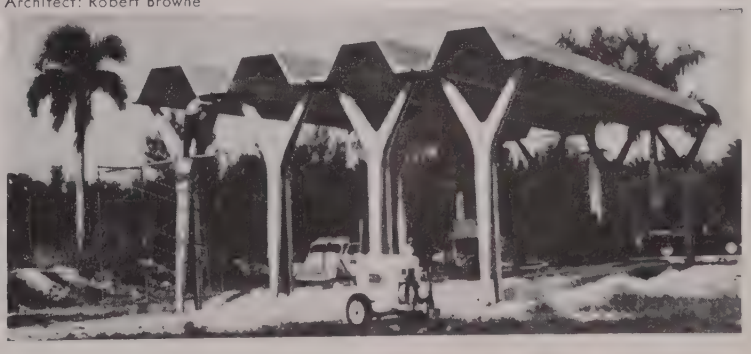
Architect: Albert Ledner



Architect: Buff, Straub & Hensman



Architect: Robert Browne



Architect: Charles S. Sink



Architect: George T. Rockrise. Photo: Ernest Braun





George W. Sommer

RIDGE VENT is almost invisible. Ventilating cap is only 5¾" wide, projects only 1-5/16" above the ridge.

The better-for-less news about cooler attics is:

You can now buy continuous vents for ridge and soffits by the yard

The combination will ventilate the attic so much better than the little gable vents, roof vents, and eave vents most builders use that they can cut the heat load of an air conditioned house at least 13%.

Says Big Georgia Builder Fred Fett: "We use a perforated prefinished aluminum soffit system and a ridge vent in all our building. It gives us a breeze in the attic that gets rid of all moisture—we had been plagued by delamination of the plywood deck. We find it much easier to build our gable ends without installing louvers—and much easier to roof without square roof vents. The soffit vent system costs only 5¢ a foot more than ordinary plywood in place and painted, but it has far more buyer appeal; it is easier for us to work with, and it eliminates future maintenance."

_____

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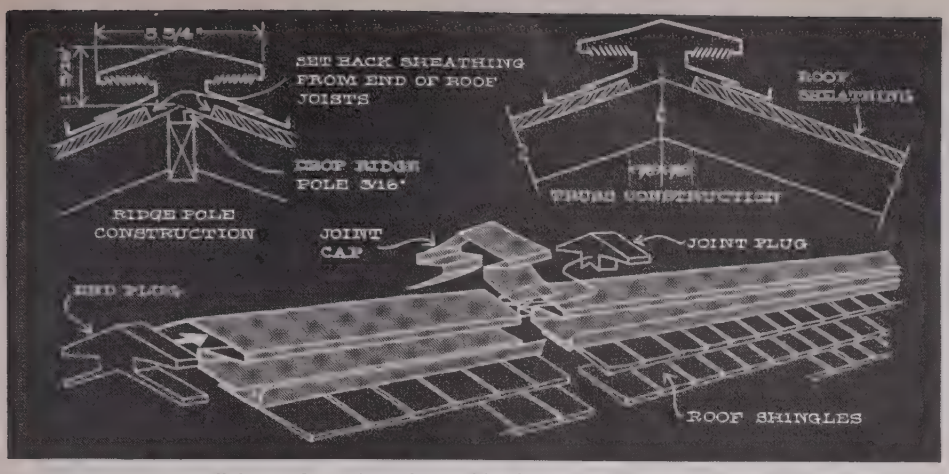
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SIMPLE ASSEMBLY links preformed sections with vinyl plugs. Flange is nailed to roofing.

Here are six good reasons for ridge vents

1. Ridge vent does a better ventilating job, partly because it puts the outlet at the very highest point, so no heat can be trapped above it; partly because it ventilates the whole length of the attic uniformly; partly because it provides much more net ventilating area (NVA)—50% more than FHA requires. For example: a 36′ ridge vent gives 684 sq in NVA, 10% more than a pair of 8′-long gable-end louvers (which are a lot bigger than the louvers most builder install).

Because it provides much better ventilation it keeps the attic much cooler. Tests show that inside and outside temperatures under a ridge vent do not differ more than 10F, even on a sunny summer day.

2. Ridge vent lets in less rain or snow. This was not true when ridge vents first came on the market, so some of the builders who tried them first gave them up. To correct this failing, the manufacturer studied his product in a wind tunnel, learned how to redesign the strip with extra flanges that set up enough turbulence to deflect wind-driven rain or snow up over the peak instead of into the louver.

3. Ridge vent costs less to buy. If you can't buy it locally, you can order it by mail for about 53¢ a foot, or about $21 for enough vent for a 36′ roof, including end plugs and joint fittings. This is at least $4 less than you would have to pay for a pair of 8′ gable-end louvers that would not do as good a job.

4. Ridge vent is easier to install. It takes the place of the roofing ridge: you just stop the sheathing ⅞″ short of the ridge and nail the vent on top. It needs no flashing, special framing, or complex cutting in (as gable-end louvers and roof vents do).

5. Ridge vent look better. In fact, you can hardly see it, as the picture (opposite) shows, whereas the half-a-dozen square roof louvers or two 8′-wide gable-end louvers needed to provide equal ventilation are hard to fit into a handsome house.

6. Ridge vent is the only vent that looks right on a hip roof: It is the only way to avoid the broken roof line you get with a gable-end louver in a hip roof (see photo right).

Here are four good reasons for continuous soffit vents

1. The soffit vent comes complete. You don't have to assemble soffit material, install vents, screen over the openings.

2. It comes in big sizes, including rolls up to 50′ long and sheets up to 4′ wide.

3. It saves site finishing. It comes prepainted or preprimed in aluminum, laminated fiberboard, hardboard, and asbestos cement board.

4. It costs less. Most systems need no outlookers; they just slide or snap into factory-made channels, so they minimize on-site labor.



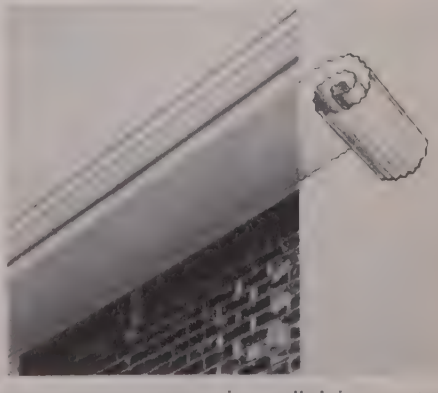
WIND-TUNNEL TEST shows how wind-driven rain or snow is deflected over the peak by vinyl baffle.



IN SMOKE TEST attic ridge vent cleared attic in 1½ min, gable-end vents took 9 min to clear.



GABLE-END LOUVERS like these seldom look well in hip-roof houses.



CONTINUOUS SOFFIT is unrolled in eave tracks to provide vents all around the roof edge.



The better-for-less news about ceilings is:

Two men in less than one hour can install a lightweight acoustical insulating ceiling



Most ceilings today weigh much too much, require too many trusses or joists to hold them up, and need too many on-site operations to finish them and make them functional, so they cost much too much. For example:

Half-inch drywall ceilings for a 32′x40′ house weigh 1½ tons. They cost even a big builder at least $64 for the gypsumboard, at least $51.20 for labor to install and finish, and at least $64 to paint (unless he can spray). They perform almost no function except to hide the joists or trusses, so he must figure at least another $12.80 if he wants a foil vapor barrier, at least another $38.40 for 2″ insulation, making $230.40 in all—plus another $200 if he wants to add the cheapest acoustical treatment.

This Fall a new kind of ceiling is coming on the market—a two-mil vinyl skin laminated to 2″ of glass fiber insulation. It comes plain or in a wide variety of patterns, in sheets 4′ wide and any usable length. It spans 4′ without sagging, can be installed by just slipping it into T-bars. It weighs only 5 oz/sq ft, or 15 lb for a 4′x12′ panel, so two men could easily hang the whole ceiling for a 32′x40′ house on the T-bars in less than an hour. It is washable and easily removable and does quadruple duty as ceiling, thermal insulation, vapor barrier, and acoustical treatment. Introductory price to big builders is 17¢/sq ft for the ceiling material and T-bars. This works out to a material cost of $217.60 for the 32′x40′ house.

First user is Builder Don Huber of Dayton, who is using it in the kitchen, utility room, family room, and baths of his model houses this fall. He would use it in the living and bedrooms too if he were sure homebuyers would like the looks of the visible support bars. He expects a bonus saving of $50 on the cost of a dropped ceiling around his recessed kitchen lights.

CEILING PANEL 4′x20′ weighs only 25 lb.

And here are four more product developments you should know about:

1. You can use big planks instead of small tile to apply acoustical ceilings faster

This acoustical plank costs 20¢/sq ft, or no more than acoustical tile of the same quality, and it offers three savings:

1. It cuts layout time—you don't have to set up guide lines or start your layout in the middle of the room.

2. It eliminates the uneven joints that often develop with tile (an error that gets cumulatively worse in bigger rooms).

3. It cuts application time in half. In a test run, two men installed the new plank in a 12′ x 24′ room in an hour—half the time it took them to install regular 12″ x 12″ tile.

Each plank is 16″ wide, 10′ or 12′ long, ½″ thick, with t&g joints on the long edges. So, since most rooms in the house have one dimension 12′ or less, a single length of plank stretches from wall-to-wall. Where planks can run at right angles to the trusses, they can be stapled right to the bottom chords; where planks must run parallel to trusses (2′ oc), furring strips will be needed.

Planks are finished with white washable flame-resistant paint and can be ordered perforated or fissured. And like tile, they can be glued to a gypsum ceiling.



2. You can pick from many roof decks that combine ceiling, sheathing, insulation

And three-in-one roof decking saves up to 50¢/sq ft compared to the installed cost of wood sheathing, insulation batts, gypsumboard, and paint.

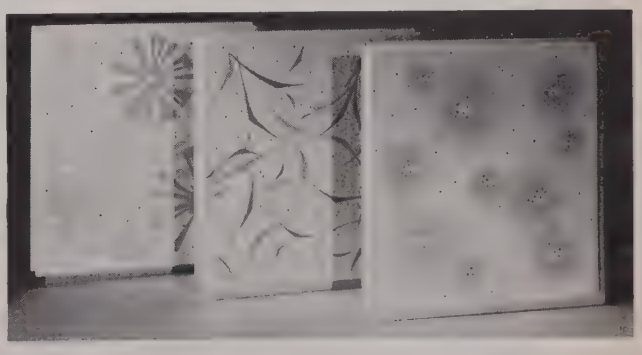
New deckings come with finished acoustical undersides, smooth painted, or finished with a printed wood grain. Fiberboard decking 3″ thick, 2′ wide, and up to 16′ long can span rafters 4′ oc, so you can save money by using heavier rafters spaced further apart. Decking has a built in vapor barrier, a rubber gasket at the joint, and meets FHA nail-holding requirements for direct application of asphalt shingles.



3. You have a wider choice in prefinished predecorated ceiling materials

Inexpensive (15¢/sq ft) fiberboard tile come regular perforated, random perforated, pinhole perforated, fissured, printed, prepainted, or vinyl covered. They now also come in many sizes: 12″x12″, 16″x16″, 12″x24″, 16″x32″ and 24″x24″, 24″x48″.

And fire-resistant tile for residential use are now available at a slight premium (5¢/sq ft). One maker has just announced a chemically treated fiberboard tile with a 0-25 flame-spread rating and another manufacturer has made mineral tile that does not require installation by a ceiling contractor—it has a self-leveling t&g edge, can be stapled or glued by standard methods.

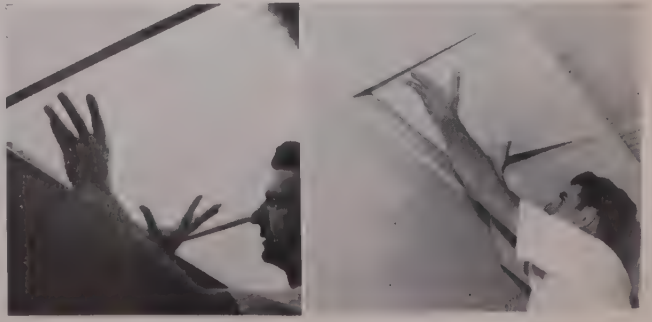


4. You can combine luminous and opaque acoustical ceilings cheaper than ever

Now you can buy a complete acoustical luminous ceiling that uses inexpensive aluminum T-form channels on a 2′ module to hold either acoustical panels or acrylic light panels.

And you can buy a wide variety of flat, corrugated, colored, and patterned plastic sheets and rolls to fit a carpentered system.

Or you can buy perforated plastic that serves for both lighting and noise control.



The better-for-less news about brick is:

Soon you can build bearing walls of brick for less than yesterday's cost for veneer

The big news about brick is a new high-bond mortar developed by Dow after five years of research for the Structural Clay Products Foundation.

The new mortar, announced last November but still under final field tests, is five times as strong as ordinary mortar, so . . .

1. With the new mortar a single course of 4″ brick will "be an entirely adequate load-bearing wall in both one-story and two-story houses, saving all the cost of the masonry back-up or wood studs required for structure behind a 4″ thickness of brick laid with ordinary mortar," according to SCPRF Director Robert B. Taylor. The new high-bond mortar will make a structural brick wall out of what is now just a decorative brick veneer.
2. With the new mortar, brick walls can take hurricane winds without reinforcing. (Tested on a 5′ span, a 4″ brick wall withstood a uniform horizontal force of 250 lb per sq ft, vs 50 lb with standard mortar.)
3. With the new mortar, brick panels can be tilted, lifted, and moved long distance without mortar failure. So bricks can be laid in panels in the shop where the weather is always good, and they can be laid in a horizontal jig to make the bricklayer's work fast and easy.

As soon as field tests and accelerated weather tests are completed, the Structural Clay Products Institute and the Bricklayers' Union will jointly seek code approval.

Until the new mortar gets code approval

Right now the best ways to save money on brick are:

H&H staff

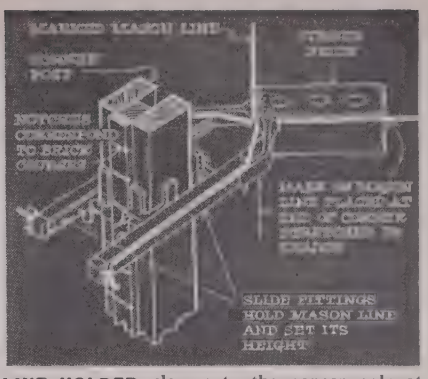


Use 6″ bricks in bearing wall . . . use 4″ brick in reinforced panels . . . or nail on thin bricks for veneer

For on site brick laying, follow the SCPI process:



CORNER POLE, center, carries the line holder which lets you set your course guides quickly and accurately. Towers, rear, are part of one adjustable scaffold system.



LINE HOLDER clamps to the corner pole at one-brick-high marks on the course guide.



ADJUSTABLE SCAFFOLD lets mason work at most comfortable height for each course.

This makes it easy for brick layers to lay 1,000 bricks a day.

For insulation behind a wall one brick thick:

Hedrich Blessing



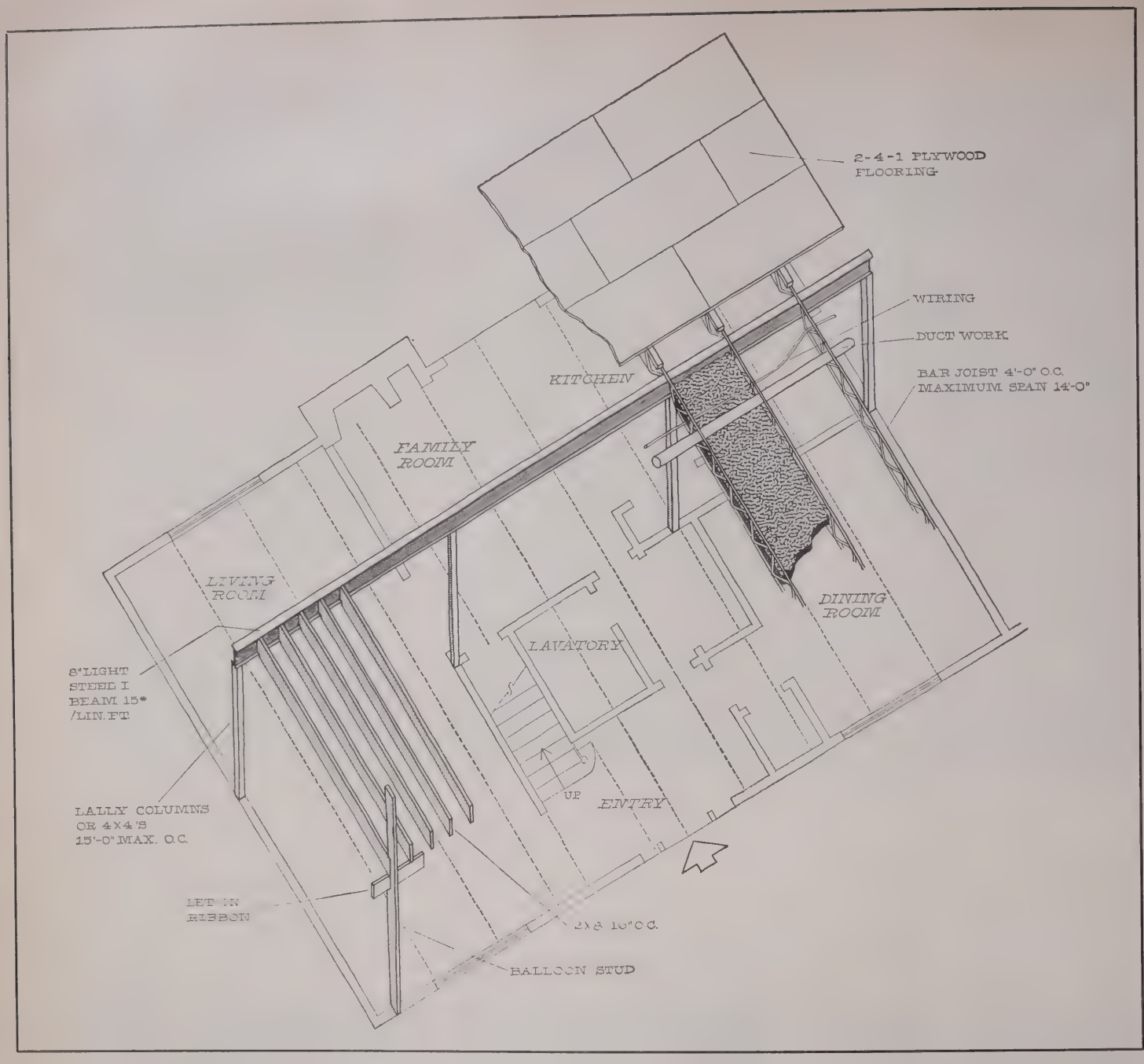
You can glue on foamed plastic . . .



and plaster or drywall it . . .



or you may find it cheaper to fur.



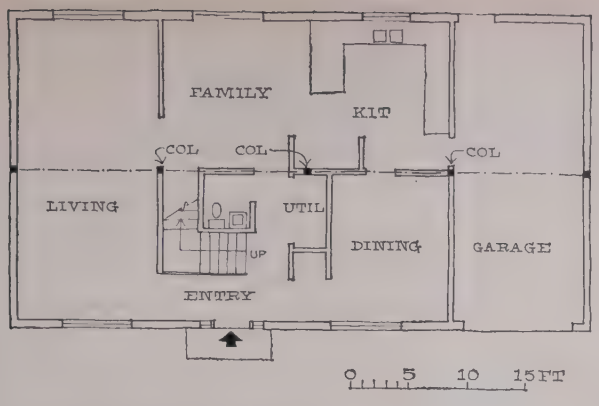
The better-for-less news about two-story houses is:

You don't need interior bearing walls to support the second floor of the house

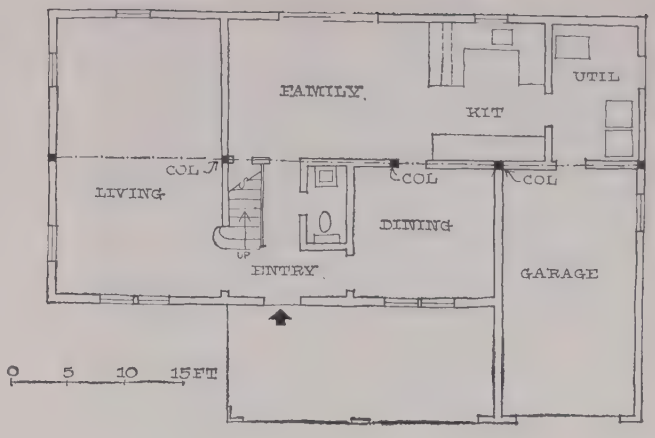
All you need is an 8″ steel I-beam down the center of the house, supported by a 4x4 buried in each end wall and one or two intermediate 4x4s or lally columns buried in a partition or hidden in a closet.

The I-beam would weigh 15 lb/ft, span up to 15′, cost about $1.50/ft or about $60 for a 40′ house. It would save more than that by permitting the use of non-bearing partitions, and save many times that much by permitting on the ground floor of a two-story house all the big economies that truss framing permits on the floor next to the roof (*see page 112*).

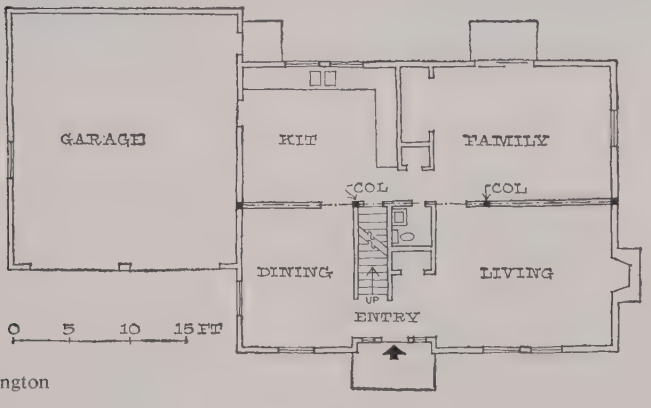
This money-saving idea comes from Architect Leonard Haeger, former research



Here is how it would work for Huber



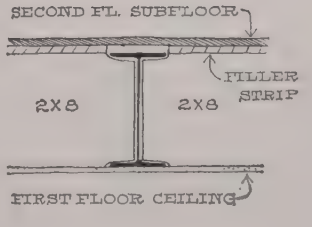
Here is how it would work for Levitt



Here is how it would work for Midwest's Lexington

director of HHFA and NAHB, later construction vice president for big Builder Bill Levitt. Says he:

"Into this I-beam you could frame 2x8s 16″ oc, notched to fit the beam and supported at their perimeter end either by a platform or by a notch in a balloon-frame two-story stud. Or you could use 8″ bar joists 4′ oc. Their open web would make it easy to run mechanical services through the floor, but they would cost a little more than wood and their wide spacing would create a real ceiling-support problem unless the house were designed to take advantage of the new light-weight ceiling that span 4′ without intermediate support." (*See page 154*).



Wood joists and steel bar joists would both span 14′, so this floor framing system would work for any house up to 40′ long and 28′ wide—which is a big house (2,240 sq ft). Both would provide a flat ceiling underneath, so the architect would have almost complete planning freedom, except that somewhere near the center of a 28′-long house or somewhere near the points of trisection of a 40′ house he would need a partition or a closet to hide the interior post or posts.

Above the beams and joists you could lay any of the cost-cutting panelized floors described on *page 136*.

Adds Haeger: "I have tried this system out on the plans of dozens of houses now being built by the builders for whom I am consultant, and I have found that with minor variations it is easy to work on every plan and saves money on every plan. I have talked the idea over with my former associates in the Levitt organization and also with my big Ohio client, Charles Huber, and they all think the idea is practical and promises big savings."

The immediate better-for-less news about plumbing and bathrooms is:

You now have 12 good new ways to cut costs



1. New wall-hung home toilets

Since 1958 every major maker has brought out a tank-type wall-hung model for residential use. All smart homebuyers prefer them because they make the bathroom floor so much easier to clean; all smart builders would probably buy them, except that most of them still cost twice as much as most builders pay for toilets. Wall-hungs let you keep your plumbing above the floor. Says Bob Schmitt: "This can save you $150 on a two-bath house."

2. New low-cost mounting for wall-hungs

Plumbing Expert Carl Boester just predrills a 2′ length of ½″ plywood to take mounting bolts and waste pipe. Then he glue-nails (or bolts) it to the stud faces so it is flush with the ½″ drywall (so later it can serve as the tile base). Cost: less than $1, vs $30 to $35 for the kind of chair used in commercial building.



3. New rear-discharge toilet

This is by far the cheapest fixture you can use with above-the-floor plumbing. It is priced wholesale only $10 higher than the cheapest toilet builders buy. Incidentally, it makes the bathroom floor almost as easy to clean as a wall-hung, because there is no floor behind it.

4. New cheaper copper drainage pipe

Thin DWV pipe is now accepted by most codes. This should save you money three ways: First, it is cheaper—a foot of 3″ DWV costs $1.08 vs $2.27 for type L and $2.64 for type K. Second, it weighs less—1.67 lb vs 3.33 lb and 4 lb—so it needs less manpower. Third, it solders faster: 3½ minutes for a typical 3″ joint—almost twice as fast as the heavier type.



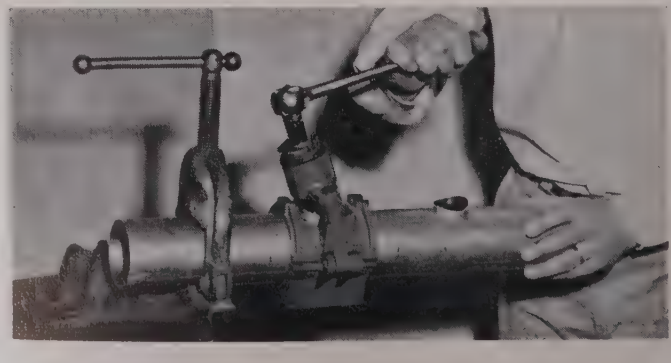
5. New water-supply manifolds

You can now buy them completely prefabricated and ready to install (instead of having to solder together a row of reducing tees). The manifold serves as a main for ⅜″ flexible risers that can be strung through walls or under floors as easily as BX. The system eliminates all fittings between supply and fixture. Only four valves (main shutoff, cold manifold, two on water heater) are needed, so gate valves rather than globe valves can be used. Incidental advantage: since there's only one fixture on each riser, there can be no pressure drop between fixtures. The manifolds you can buy are intended for use in hydronic heating systems, but there is no reason for not using them for better plumbing too.

6. New pre-trimmed, pre-fluxed fittings

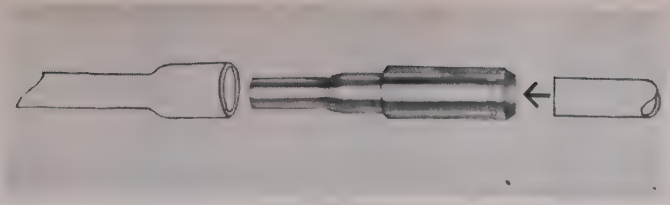
They cost 6% more than regular copper and bronze—7.7¢ vs 7.3¢ for a ½″ 90° elbow. But they save so much time that they pay for their extra cost 50 times over: it takes a plumber a 10¢ minute for each end to clean the inside of a fitting—20¢ for a ½″ elbow. And these new fittings make a better joint because they are positively clean, positively tinned, and guarantee a strong 100% solder-filled joint.

Henry M. Baur



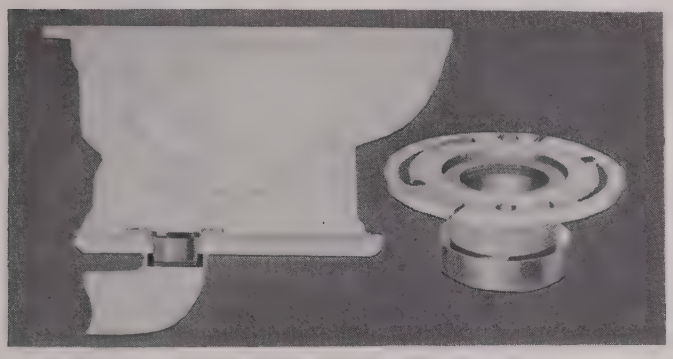
7. New forming tool eliminates tees

This tee-former can convert straight tubing into tees wherever tees are needed. With it Bob Schmitt makes $24 worth of tees for $6.



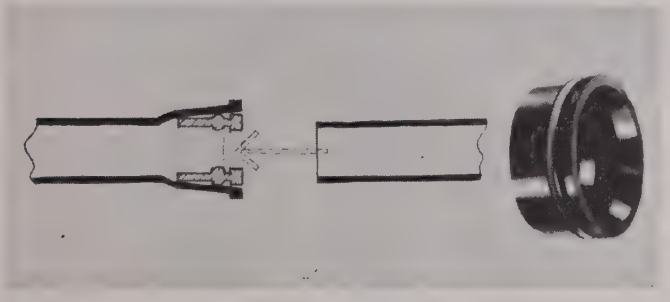
8. New swage eliminates couplings

It can convert the end of 3/16″ to ⅞″ tubing into a female joint, so two tubes can be joined with a single soldering. A ⅜″ swage costs only 75¢.



9. New neoprene closet seal

It connects any toilet discharge horn—flush or extended—to any kind of waste line—cast iron, copper, plastic—without wax, lead, or solder. It is more sanitary; it can't leak gas or water; it keeps its seal even under heavy vibration. It costs three times as much as the material for a cast-iron flange with lead, oakum, and wax seal, but it can be fitted in one-fifth the time, so it saves $1 to $2 a toilet.



10. New joint system for cast-iron pipe

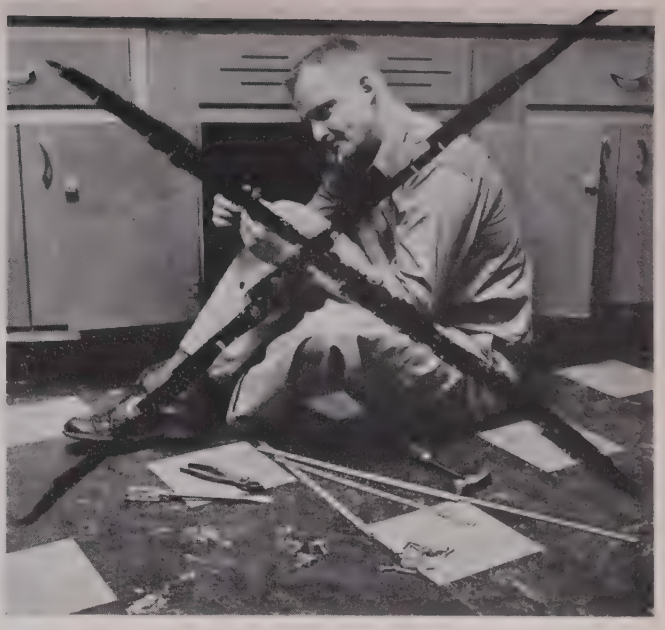
With this new neoprene gasket you can join two lengths of cast-iron drain pipe in less than 30 seconds, vs 15 to 30 minutes to lead a joint. A 4″ gasket costs $1.25 (vs 75¢ for lead and oakum) but at a nominal 10¢ a minute for labor, installation only costs 5¢ vs up to $3 for lead. Like the closet gasket, it lets a house settle without opening a joint

Interstate Photographers



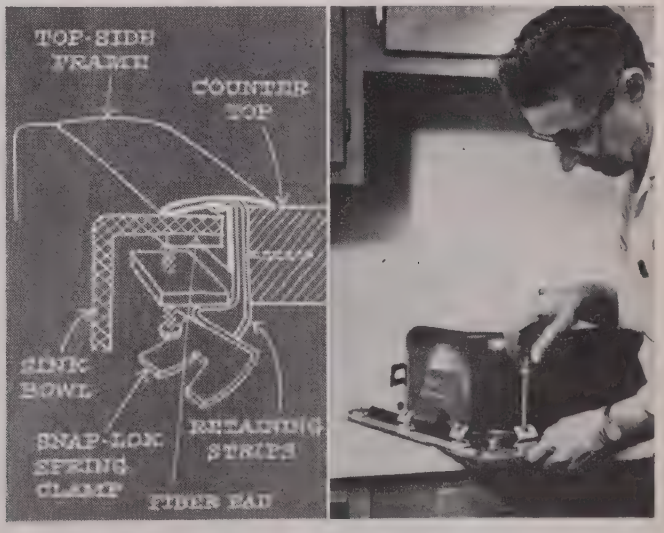
11. New "dope" to seal threaded fittings

New plastic tape replaces dope and string at the few screw joints you still need—at appliances, water heaters, boilers, etc. It goes on as easy as Scotch tape, is chemically inert, is proof against water, oil, chemicals, gases, and temperatures to 500F.



12. New sink rim to save the time-waste shown above

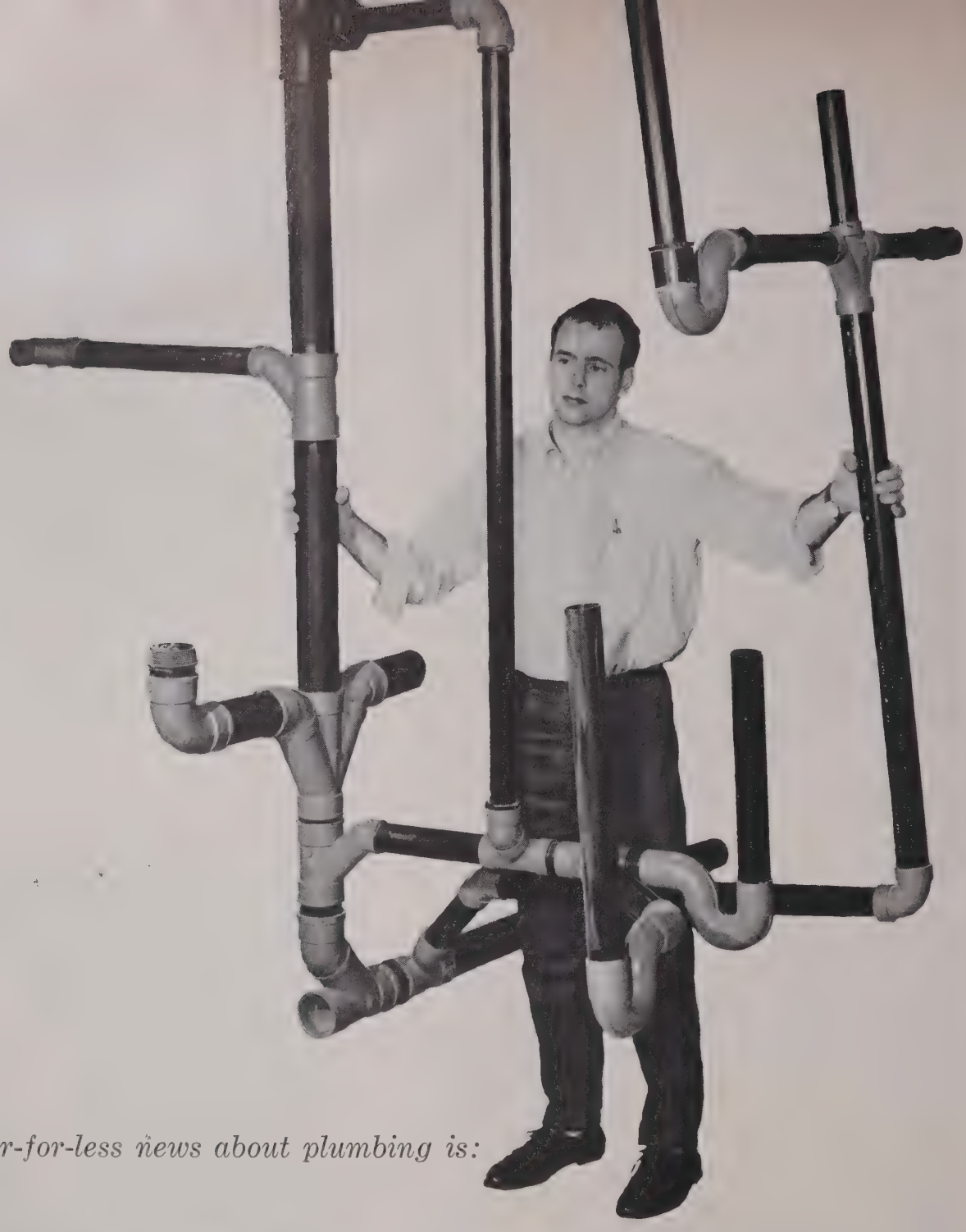
All sinks fitted with this device can be set in a counter and fastened down from the top—there's no need to reach around or under to get at undercounter clamps. First you attach the rim to the sink; then you nail retainers around the opening; then you just drop the sink in place and a spring clamp locks automatically. The whole job is done by the plumber: no second trade is involved.



CLAMPS hold rim to sink, are attached before sink is set in opening.



RETAINER is nailed to side of opening, then sink is dropped in place.



The next better-for-less news about plumbing is:

FHA is ready to OK plastic drainage like this inside the house

This can be big news, because plastic drain pipe costs less and goes in easier—and the drainage lines account for 76% of the piping cost inside an average house.

Specifically, FHA is ready to issue a Use and Materials Bulletin accepting for coast-to-coast use the ABS waste-line system developed by Builder John Long in Phoenix. The bulletin will be released as soon as the FHA legal staff can freeze the wording of a five-year builder's warranty FHA will require (like the five-year builder's warranty FHA now requires on water heaters and soil poisoning). "We're satisfied with the material," explains Chief Architect Connor, "We just want the warranty to be sure we get a good installation."

This means FHA will accept one plastic or another for every plumbing use except hot and cold water supply lines inside the house. Bulletin UM 31 earlier this year approved flexible polyethylene up to 2" for the house service lines outside the foundation and Bulletin UM 26 last year approved styrene rubber for the line to the sewer outside the house (for which FHA has also accepted bituminous pipe for years.)

Perhaps this FHA acceptance of plastics will speed code acceptance too.

Plastic drainage inside the house can save money four ways:

First—the pipe is cheaper: 100′ of 1½″ ABS costs $34 vs $53 for DWV copper. And in 4″ pipe the difference is even greater—$134 vs $222.

Second—drainage fittings are cheaper: An ABS 4″ sanitary tee costs the plumber about $4.16 vs $7.50 for copper; an ABS 2″ elbow costs him 76¢ vs 96¢ for copper; an ABS 3″ combination tee-wye costs only $2.93 vs $5.84 for the same fitting in copper. (But 1½″ or smaller fittings cost much more in plastic than they do in copper, see below.)

Fittings costs can be reduced much further with solvent-welded saddle fittings that make a tee out of straight pipe by just cutting a hole under the saddle. They cost only one-third as much as tees and eliminate two joints, pipe cutting, and solvent welding the ends of the tee. (See upper photo.)

Third—the pipe is easier to cut and quicker to join: A 3″ DWV soldered joint takes an experienced plumber 3½ minutes with a special wrap-around torch and a powder flux. A plumber's helper can solvent-weld an ABS joint in less than a minute. (See lower photo.)

Fourth—handling costs less: One man can easily carry and place a complete plumbing tree.



Plastic drainage outside the house is now competitive with bituminous

Styrene not only saves money compared with expensive types of pipe that are heavy and hard to handle, slow to join, and difficult to cut, but styrene is also directly competitive with bituminous pipe and fittings. For example:

Styrene fittings are cheaper: $2.10 for a 4″ quarter bend vs $2.45 for bituminous; $1.27 for an eighth-bend vs $1.45; 29¢ vs 31¢ for a straight coupling, and $2.10 vs $3.19 for a 45° wye.

But styrene pipe costs more: 52¢/ft vs 40¢ for bituminous.

Labor is about the same. Both are easy to cut. The bituminous pipe is joined by tapping the tapered end of the pipe into the fitting. The styrene is joined by solvent welding, which takes about 30 seconds. The styrene joint is easier to make on cut lengths since it does not have to be re-tapered. And the joint does not depend as much on good installation techniques to guarantee root resistance.

Styrene weighs less: 1.2 lb/ft for 4″ styrene vs 3 lb for bituminous.



Plastic water supply lines outside the house can save money five ways:

First—the pipe is cheaper: 100′ of ¾″ polyethylene costs $8 (or $12 for heavier 125 psi pipe where the local water pressure requires it) vs $55 for type K copper (which is required for buried lines). At this low price you can well afford a larger supply line. A polyethylene 1″ line costs $12 (or $20 for 125-psi); a 1¼″ line costs $20 (or $34).

Second—fewer fittings and joints are needed: Polyethylene pipe comes in rolls up to 3,500′ long—rigid copper in lengths up to 20′, and flexible copper in 60′ rolls. So with plastic you need only one joint at the main and one at the house—but none in between.

Third—joints are easier to make: Polyethylene can be joined best and fastest by thermal welding. A joint takes only 30 seconds.

Fourth—obstructions in the trench cause no problem: Polyethylene is flexible, can be dropped in the trench and bent around roots, rocks, or whatever. This can also be done with flexible copper—but ¾″ flexible type K is stiff and takes time to bend to shape.

Fifth—the pipe is lighter: 100′ of ¾″ (75-psi) polyethylene weighs about 8 lb vs 64 lb for type K copper. The same amount or 125-psi polyethylene weighs only 15 lb. So one man can easily carry a 500′ reel of polyethylene—or move or shift a long length in a trench.



But copper is still best for inside water lines

And it probably will be for a long time to come.

First—it has better resistance to high and low temperatures than any plastic pipe that is now competitively priced.

Second—copper fittings are much cheaper for ⅜″, ½″, and ¾″ sizes. A ¾″ 90° elbow costs 18¢ in copper vs 34¢ in ABS, or 26¢ in high-density polyethylene. A ½″ copper tee costs 12¢ vs 30¢ for ABS and 26¢ for polyethylene.

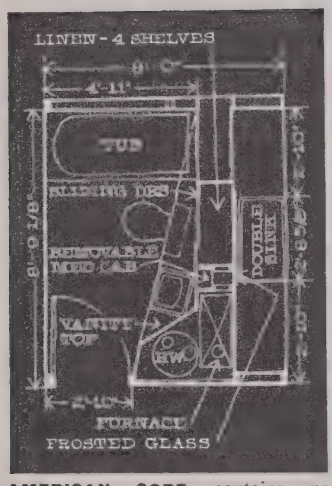
Third—by using a manifold and ⅜″ tube, installation costs in copper can be kept at a minimum. And although the tube is more expensive—18¢ for ⅜″ tube vs 8¢ for ½″ heavy-duty polyethylene—the 10¢ difference would not save a great deal of money in the average house where plumbing is compact and lines are short. And the difference would be even less between copper and the more expensive plastics—ABS, PVC, polypropylene, nylon, etc.

So far no plastic pipe has proven as good or as cheap as copper for water lines inside the house because 1) inside lines must stand both heat and pressure, 2) the only plastics that have stood up under boiling water are rigid, so they need too many fittings, 3) small size plastic fittings are expensive.

The next better-for-less news about plumbing and bathrooms is:

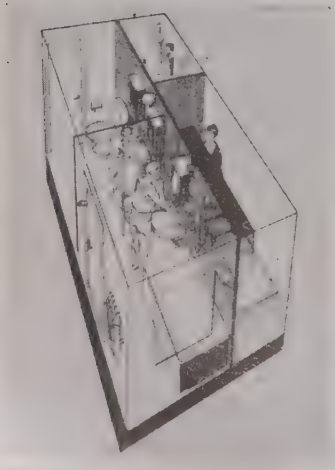
Corval





AMERICAN CORE contains preplumbed, prewired bath, kitchen, furnace, water heater, cabinets, wiring panel. It weighs 3,000 lb, sells to buiders for $1,257 FOB. It has factory-finished floors, walls, and ceiling—needs no on-site painting. And it needs only one connection for water supply, one for drainage, one for electricity.

In some places you can get bathrooms like this



SWEDISH CORE is prewired, preplumbed and precast in concrete, weighs ten tons, includes compartmented bath, kitchen appliances, furnace and water heater.

This is nothing new in Europe. The Russians precast crude bathrooms in concrete, truck them 20 miles to the site, lift them as high as six stories with huge cranes, and drop them into place. The Swedes have been doing the same thing and doing it much better for years.

It is not really new in this country either. Right after the war Borg-Warner brought out a mechanical core that could have saved homebuyers millions of dollars if more plumbers had been ready to accept it.

At least three manufacturers now make three-dimensional mechanical cores—one for vacation houses, the other two as parts of a manufactured-home package. Says one home manufacturer: "If we were sure of selling at least one core a day, we could set up a production line to produce them cheap—complete with finished bathroom, major kitchen wall, heating plant, water heater, and wiring panel. And we could deliver them to builders for far less than they now pay to install mechanical equipment at the site."

At today's volume, the 3,000-lb core shown above sells to the builder for $1,257 FOB. The manufacturer estimates it saves most of his customers at least $116 on



. . . delivered in complete packages like this

plumbing, $96 on heating, $76 on kitchen cabinets and at least $20 on wiring—a total of over $300, not counting the savings of factory-assembled walls, floor, and ceiling.

The vacation-house core (shown at right) contains a small kitchen and bath. Various models are offered to builders priced from $825 depending on size and equipment.

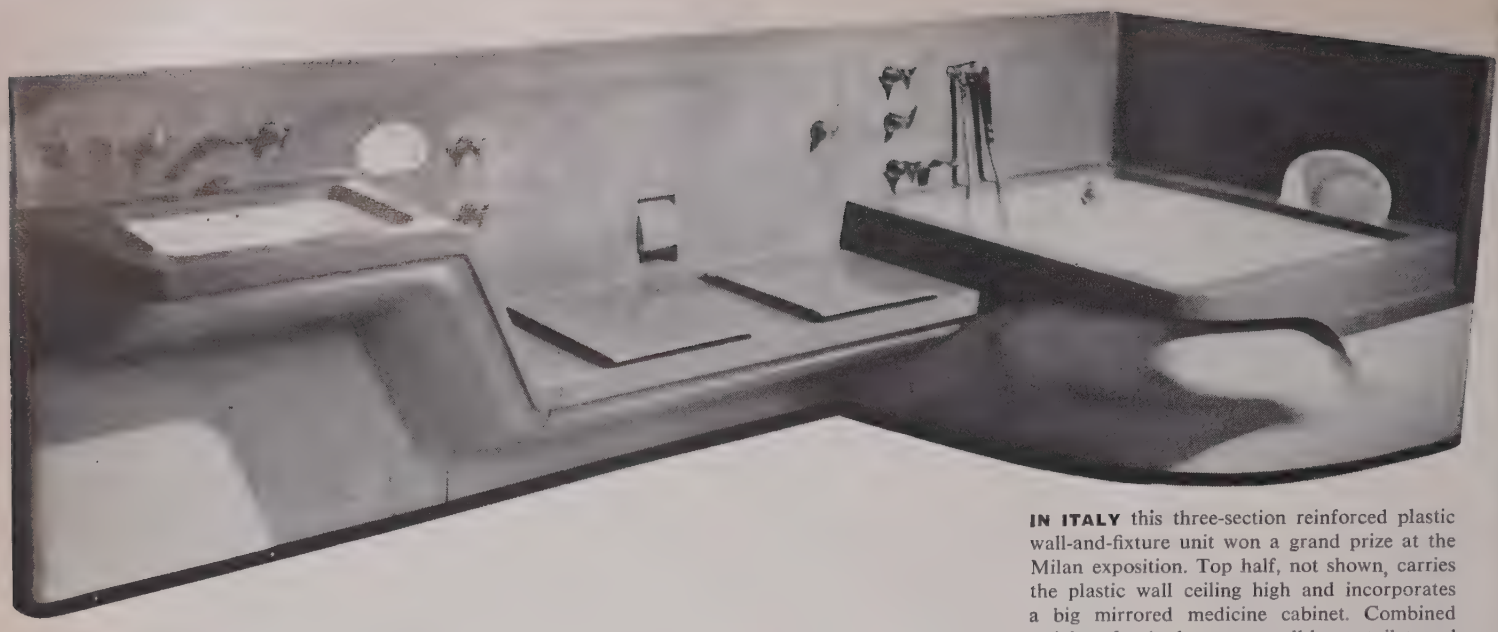
These cores are just a beginning. Says Builder Andy Place: "What we really need is a complete mechanical core 10′ wide, 14′ to 18′ long, with two bathrooms and a kitchen wall. It should be less than 8′ high so it can fit under the structure of the house. It should have the waste lines above the floor, should use wall-hung toilets, and should use a manifold for both hot and cold water. To get flexibility, it should have a door unit that would be interchangeable with at least one other element—perhaps a linen closet or a window. Then you could shift the doors or windows to adapt a single core to different floor plans."

Biggest news is that at least one very big manufacturer is well along on the development of a complete mechanical core 9′x36′ including two baths and a kitchen, all ready to drop in place and wrap the house around.





VACATION HOUSE CORE includes bathroom fixtures on one side of wet wall, kitchen appliances on the other side, water heater under sink, sells to builders prewired, preplumbed and prefinishd for $920.



IN ITALY this three-section reinforced plastic wall-and-fixture unit won a grand prize at the Milan exposition. Top half, not shown, carries the plastic wall ceiling high and incorporates a big mirrored medicine cabinet. Combined weight of tub, lavatory, wall-hung toilet and bidet, and lower wall is only 125 lb, including fittings and pipes.

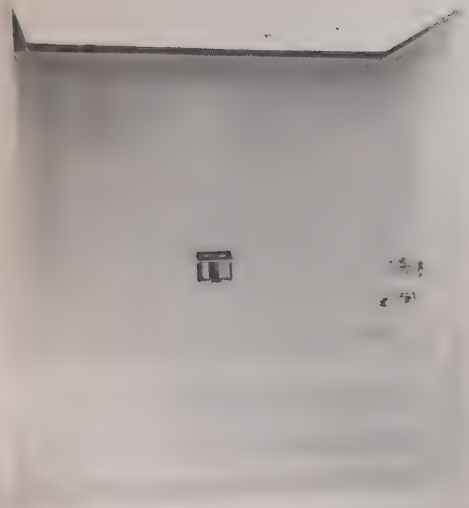
The next better-for-less news about bathrooms is:

Competition from reinforced plastic fixtures will soon force a lot of revolutionary changes

Reinforced plastics may soon make the biggest news of all—not because plastic fixtures would be cheaper or better, but because plastic fixtures are so easy to integrate into much bigger floor-to-ceiling components.

Before plastics can challenge traditional materials for a big share of the fixture market, the plastic manufacturers must solve two big problems:

1. The problem of getting a surface as scratch-proof and stainproof as porcelain enamel. No present finish meets this standard and the Navy had enough trouble with scratching to discontinue temporarily its experiments with plastic fixtures.
2. The problem of quality control for a product whose fabrication requires so little capital investment that thousands of small local shops will probably rush in to make it as soon as the finish problem is solved.



IN PHOENIX Builder John Hall is using tub-and-tub enclosure units of reinforced plastics.

These are real problems, but they are not insoluble. The big material suppliers can probably find ways to police the quality performance of their small fabricator customers, and the industrial-finish manufacturers are confident that within a year they can develop a good enough surface. Says one of the biggest: "A few years ago people were questioning aluminum siding because its finish would not last. We stopped that criticism with a new finish we could guarantee to last 15 years, and now there is a still newer finish for aluminum guaranteed for 30 years. Some plastics like nylon are harder to scratch than steel, much harder to scratch than frit. If cost were no problem, we could offer a finish right now that would out-perform porcelain enamel, and within a year I am sure we can get down to a cost low enough to make plastic fixtures competitive in both price and durability."

Meanwhile, as the photos on these pages show, plastic fixtures are in the news both here and abroad:

Famed industrial designers Raymond Loewy and William Snaith have been retained to solve the design problems of a complete reinforced plastic bathroom—not just fixtures, but also the walls, ceiling, medicine cabinet, and everything. These complete bathrooms can be site-assembled from not more than a dozen big parts.

Aust & Schuttler, Modern Plastics



IN GERMANY three plastic fixtures are being molded in a single wainscot-high unit integrated with the floor. And in Mexico the federal government is buying standardized wall-and-fixture units for 20,000 new rural schools, to serve the bathroom on one side and the kitchen on the other. These units incorporate not only plastic surfaces and fixtures, but also all the supply and drainage pipes in plastic.

FHA is "accepting" (under its regular 203 program; not its new 233 experimental program) 390 reinforced plastic tub-and-tub enclosure units that Phoenix Builder John C. Hall is installing. Says Hall:

"We have already installed these units in more than 300 houses without getting a single complaint from the homebuyer. The women find they are easier to keep clean because the surface is so smooth and they like the fact that the plastic is always warm to the touch, even on cold mornings. Our tests show the surface is harder to chip if someone drops a bottle of hair tonic on it. We had a little trouble with staining in the first units we bought, but the chemists licked that problem very quickly. We've had no trouble with scratching so far. If we do, they tell me we can spray on a new surface for $15 a tub.

"We pay $110 a unit, including the integral 4′ high enclosure. The unit comes from the factory laminated to gypsum board for strength, with an egg-crate reinforcement at the bottom. We just nail the unit to the studs with a plastic flange at the top and sides and then cover the flanges with drywall. We are also using reinforced plastic shower stalls, and for a while we used a one-piece plastic vanitory. We would still be using this except we ran into trouble with cigarette burns, so we are waiting for a new surface that will be cigarette proof."

Nobody thinks plastics will take over the bathroom and displace all the traditional materials for walls and fixtures the way they have taken over the motor boat hull and now threaten to take over the auto body; but this much seems almost sure: Before long . . .

Big plastic wall-and-fixture components will be low in price and easy to assemble into complete bathrooms from a few big parts. So . . .

The challenge of plastic components will force the makers of traditional bathroom fixtures and wall materials to rethink, redesign, and coordinate their lines to fit into a few modular components that could be site-assembled almost as quickly and cheaply as plastics.

The walls of today's bathroom are so extravangantly assembled that they cost builders twice as much as the fixtures. To meet the competition of complete 12-component-or-less plastic bathrooms, the makers of all other bathroom wall materials will have to find ways to assemble their product with a minimum of on-site labor.

This will throw the bathroom market wide open to new water-proof surfaces that can be formed or laminated as large modular pieces—melamine plastics that are already being marketed as ceiling-high tub enclosures, paper-thin porcelain-enamel steel laminated to some inexpensive backing, thermoset laminates, colored all-mineral panels, and other such hard-surfaced, large-size materials. Most of these surfaces cost more for material, but they could cost much less for on-site labor.

If vitreous tile is to survive in the mass market as the No. 1 bathroom wall material, it may well have to be factory-laminated to some large panel material or come pre-assembled like mosaic tile for easy gluing on the job.



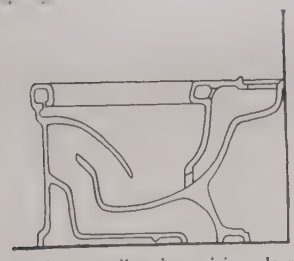
IN DISNEYLAND all-plastics house features this bathroom, as dramatic as it is impractical. Lavatory too small, tub too uncomfortable, three-wall plumbing wasteful.



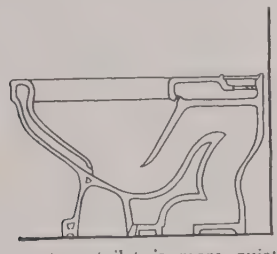
IN LOS ANGELES Fritz Burns' post-war house on Wilshire Boulevard featured this plastic bathroom back in 1947.

The discouraging news about toilets is:

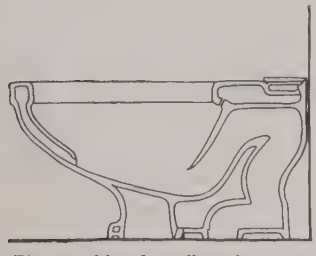
The manufacturers are already 40 years ahead of the plumbers and their own sales promotion



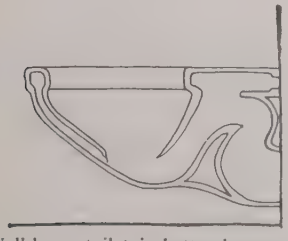
1889 Washdown toilet is noisier, less sanitary than all others on the market. It is the cheapest.*



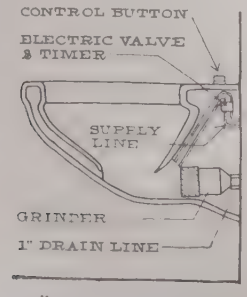
1910 Reverse-trap toilet is more quiet and sanitary. It costs only $3 more than cheap washdowns.



1929 Elongated-bowl toilet is more sanitary than shorter round-bowl units because it reduces splatter.



1935 Wall-hung toilet is better because it keeps plumbing off the floor and is easy to clean under.



1967 Grinder toilet cuts water use more than 50%, reduces waste line diameter to 1" or, at most, 2".

This Fall for the first time one maker announced "an elongated reverse-trap toilet for the price of a wash down"

Back around 1910 the manufacturers brought out the reverse trap toilet, thereby making all existing toilets (which were wash-downs) obsolete, because wash-downs are twice as noisy and wash-downs are hard to keep clean.

Thirty years ago the manufacturers brought out the elongated bowl, thereby once again making all existing toilets obsolete, because elongated bowls are so much more sanitary.

Twenty-five years ago the manufacturers brought out the wall-hung toilet, thereby making all previous models obsolete for the third time because wall-hung toilets make it easy to clean the bathroom floor and the rear discharge permits the great economies of above-the-floor plumbing. **But . . .**

40% of the toilets installed new in 1961 will be wash-down, obsolete since before World War I;

97% will be round or almost-round bowls, obsolete since early in the depression, and . . .

99.44% will be floor-discharge models, obsolete and uneconomic since before World War II.

This is like saying that 40% of this year's new cars will be get-out-and-crank models contemporary with wash-downs, 97% will have tonneaux-over-the-rear-wheel contemporary with the round bowl; and 99.44% will lack power steering, power brakes, defrosters, and all the other improvements added since 1935.

Yet even today nobody except HOUSE & HOME has even suggested that no more toilets should be manufactured that are obsolete before they are installed; and nobody but HOUSE & HOME has even suggested that millions of obsolete, noisy, hard-to-keep-clean toilets now in use should be replaced before they wear out (which they never will). Says the President of American-Standard: "We have yet to develop a major replacement market for our fixtures."

For all this backwardness there are four major reasons:

1. The manufacturers rely on the plumbers to sell their fixtures, and too many plumbers bid on the very cheapest fixtures they can buy, without trying to sell the customer something better.

2. The manufacturers keep old models in their catalogs as long as plumbers keep on ordering enough to break even (this is like Ford continuing to make and market the model-T tin lizzy because some dealers still order a few each year).

3. The manufacturers devote most of their advertising to selling glamor and say very little about why their new models are so much better. So two architects out of three, three builders out of four, four mortgage lenders out of five, and nine house salesmen out of ten don't even know today why a reverse-trap toilet is so much better than a wash-down toilet.

4. The manufacturers price their new and better models out of the market. Specifically, they still price wash-downs to the trade $2 or $3 cheaper than reverse-traps although the manufacturers themselves can't agree whether the manufacturing cost is the same or 50¢ less (this break for washdowns is partly because two short-line companies who make only wash-downs won't raise their price to the reverse-trap level). Most* of them price their cheapest elongated bowls twice as high as the toilets most builders buy although on comparable units the cost difference is less than 10%. As for wall-hungs, no manufacturer made them at any price for use in houses until about three years ago when several makers came out with tank-type models priced about three times as high as the toilets most builders buy.

If everybody would just stop selling obsolete toilets, stop buying obsolete toilets, and stop lending money to pay for toilets that should be replaced at once, then the manufacturers could concentrate on making the best and most up-to-date toilets they can make for the money. In that case . . .

1. They might save enough on their inventory and distribution costs to sell these best toilets for less than the obsolete models; and

2. They might start tapping a replacement market for millions of existing toilets, thereby perhaps doubling their potential market.

Soon even the most up-to-date of today's fixtures may well be made obsolete by some smart manufacturer borrowing a lesson from the appliance makers and bringing out an electric grinder model. This would permit 1" or at most 2" waste lines (instead of today's 3" and 4"), thereby saving enough money on the drainage system to pay the entire cost of the toilet plus a better lavatory plus a better tub. The electric grinder, incidentally, could be quieter than almost all present toilets. It would make a tank unnecessary and it would use so much less water that it could cut the homeowner's water bill almost 50%.

But what's the use of introducing a more modern model until the market has learned to demand improvements made before World War 1 and World War 2?

The better-for-less news about heating and cooling is:

Competition between system and system, fuel and fuel, is making everything dandy for the homebuyer

This competition is bringing about lower prices for better equipment to do jobs that weren't even attempted in volume housing a few years ago. Today . . .

You can buy year-round air conditioning for an installed price a lot less than ten years ago.

You can buy add-on cooling for a small house for not much more than a room unit cost a few years ago.

You can buy electrostatic air cleaners for 20% of what they cost three years ago (when practically nobody was buying them).

And in any area you can buy a comfort system that will take advantage of whatever fuel is cheapest locally.

And this better and more versatile equipment is a lot cheaper to put in place. Heating and cooling equipment now comes factory-wired, factory-plumbed, and factory-charged, so that installation is only a matter of tying in the fuel lines and heat pipes. Some jobs that once took two days can now be done in an hour.

Specifically . . .

1. Warm-air heat manufacturers are wrapping up heating, cooling, air cleaning, humidification, dehumidification, ionization, and constant air circulation in factory-assembled packages that can be installed at bargain prices.

2. Hydronic-heat manufacturers have worked out new systems and methods for cutting costs, so now you can get wet heat for the same price as warm air.

3. The electric industry is going all out to balance its summer cooling load with all sorts of winter heating—radiant ceilings, radiant baseboards, convection baseboards, electric furnaces, duct heaters, blast coils, heat pumps, electric boilers, and all kinds of spot heaters.

4. The gas industry—now dominant in winter heating—is fighting back to get summer business with new ideas in gas-fired cooling.

5. The oil industry—awake at last to the big market it was losing—has 1) researched new units that cost less to buy, less to install, or less to operate; 2) developed a cleaner, hotter, more efficient fuel, 3) invented a new distribution method as easy for homeowners as gas pipes or electric wires.

And all have joined with the insulation makers to make comfort conditioning a new standard for home construction and a big new buyer appeal.

Ducted heat systems can be easily adapted for all air treatment

The cheapest way to distribute cool air is to use the blower, filters, and ductwork of a forced warm-air system—provided the parts are all sized big enough. And this is also the best place to add moisture or negative ions or to take out excess moisture, dust, or odors.

So the fiercely competitive forced-air heat industry has been refining its heating and cooling equipment to cut unit costs and to cut its installation costs still more. Specifically:

1. Units are wired and all controls are installed at the factory so that the only on-site connections necessary are to the electric lines, fuel lines, and ductwork. This cuts tie-in time from a day to an hour.

2. Units are designed so the same model can be installed in any position anywhere—basement, heater room, closet, attic, crawl space, or even a pad outdoors. This simplifies ordering and inventory.



THROUGH-WALL UNIT includes compressor and evaporator connected by flexible tubes. Evaporator can be installed in furnace without disconnecting it from condenser section.

3. Blowers and plenums in most units are now sized for add-on cooling; and blowers are driven by variable-speed motors or belts to fit the differing needs of heating, cooling, and air circulating.

4. All the elements of air treatment come packaged in one compact unit. You can buy firebox, cooling coils, blower, electrostatic filters, humidifiers, and deodorizers factory-assembled.

5. New glass fiber ducts now come preformed in rectangular and round shapes that are quick and easy to install and light to handle. They are self-insulating and do a good job muffling room-to-room noise transfer.

And in the past two years manufacturers have made big economies in cooling



EXTERIOR MOUNTING gives this unit three advantages: quick installation, easy servicing, less noise in the house.

Biggest money savers are compact units that are fully charged with refrigerant by the manufacturer, packed for ready slip-in installation at the house.

One system combines the condenser and evaporator sections in one unit that can be inserted in a through-the-wall sleeve. The furnace is set up next to the wall so that the evaporator coils fall within the furnace plenum.

Another system also combines condenser and evaporator in one through-wall unit. But in this system the evaporator is connected to the condenser by long flexible hoses. The evaporator section can then be unbolted from the through-wall frame and installed in the plenum of a centrally located furnace.

Either of these two systems can be installed in a basement furnace, a first-floor furnace, or an attic furnace.

Still a third system combines a gas furnace and a cooling unit in a package that can be installed outside the house on the roof or on a ground-level pad. This saves on installation, makes the equipment easy to service, and keeps equipment noises outside the living space. But it is not very pretty. Cost for two tons of cooling, 40,000 Btuh of heating, about $1,000 installed.

Electronic air cleaners are now priced to give almost everyone a dust-free home

When the first electrostatic precipitators were introduced to the residential market four years ago they were big, cumbersome—though efficient—adaptations of commercial models. And they sold for about $800. Since then they have become smaller, easier to maintain, and much cheaper.

One model fits a space only 7″x16″x25″, has a 70% efficiency, and has collection plates that can be easily removed for washing. It sells for about $175 in quantity.

Other somewhat bulkier models are 90% efficient, offer automatic or semi-automatic washing, cost about $300.

Either type can cut interior painting to an only-when-you-want-to routine and reduce wall, furniture, and drape cleaning to a once-in-five-years job.

You can now install a wet-heat system—including hot-water supply—in an hour

Boiler makers, baseboard makers, piping makers have jointly been proving it all over the country. The speed record stands at 49 minutes for a system installed by a four-man team in a 1,450 sq ft house in New Jersey.

Here is how the speed-up is done:

1. The whole system is planned as a single loop. The hot water is piped in a continuous run through boiler, piping, baseboard radiators, and back to the boiler. There are no separate supply pipes and no risers to individual radiators. This cuts the piping to less than half the old system and the labor by even more. (For zone control you need a separate loop for each zone.)

2. The baseboard system is packaged and coded for each particular installation. All the piping, radiators, and connectors needed for each room are specified in the job plan, packed in individual color-coded cartons, and delivered to the room where



PACKAGED PARTS—boiler, water heater, and supply lines—are delivered to the spot where they will be installed.



HEATING UNITS come in two big packages, go together with only two joints, freeing men to work on baseboards.



BASEBOARDS are quickly nailed to studs. They are cut to size before delivery, and shipped in color coded cartons.

they will be installed. All parts are precut to size and, as far as possible, preassembled at the factory.

3. Boiler and water heater are also delivered prewired and preplumbed, so they can be connected on the job with only two unions. They can be installed in 15 minutes by two men, who then join the two-man baseboard crew.

4. All connections are made with a new kind of copper connector that is articulated and therefore so flexible it can not only be bent around framing, but also serve as an expansion joint. These connectors will adjust for a wide tolerance in dimensions, so installers need not work to a precise layout. In making the installation, the workman merely sweats the connector onto the radiator, pushes it through a hole in the floor, and sweats it to a length of copper piping that will carry the hot water to the next radiator in series.

In a slab house, you can get the same results with a perimeter loop system by installing pass-by piping under doors when the slab is poured.



FLEXIBLE CONNECTORS are sweated to the baseboard, then pushed through a hole in the floor to join piping below.

Gas has a big lead in heating and now it wants the cooling market

Gas cooling is making big progress in the Southwest, its home market. Equipment runs high ($2,000 for a three-ton unit, the smallest available), but low fuel rates make gas attractive to homebuyers.

Two kinds of gas coolers are available. Gas absorption units work on the same principle as the gas refrigerator. Gas engine models merely replace the electric motor of a conventional conditioner with a gas-fueled internal-combustion engine. Gas absorption units are the quietest of all air coolers, but gas engine models are among the noisiest.

Oil has two new advantages: more efficient burners and a new distribution system

The new burner developments follow these lines:

1. New nozzles promote a better mixture of oil and air in the familiar gun-type burners.

2. New burners replace the gun with a draft-induced system. This not only improves combustion—efficiency claims run 30% higher than for gun burners—but also cuts stack temperatures. With cooler exhaust gases, there is no need for a chimney—a type K metal vent is enough.

(Still in the laboratory are even more efficient burners that use catalytic reactors to turn fuel into heat almost without flame.)

The new distribution system can make oil competitive with gas over a wider area and bolster its position in the cold Northeast.

The system delivers oil through metered pipelines from a central storage tank to each house in a 100-or-more house community. This saves the cost of house storage tanks, cuts delivery costs by requiring only one stop per community, eliminates any likelihood of service stoppage, costs the builder nothing to install.

First installation of the new system is near Poughkeepsie, N.Y. Future installations will offer an equipment package with the service. (The full story of the new system will appear in H&H, November.)

You'll find the better for-less news about insulation on page 141.





Photos ... J. R. ... LIFE; bottom, Leigh

The better-for-less news about outside wiring is:

You can get the wires buried for as little as $50 a house

Overhead wiring is the worst eyesore in postwar suburbia—ugly, conspicuous, and ubiguitous.

Until the trees grow up to hide them, the bare black poles with their sagging rigging can be seen from miles away, towering above the one-story houses. They are the first sorry sight homebuyers see as they drive towards a new development—and the last sight they forget.

Three years ago most electric utilities charged so much extra for underground wiring that few developers could even consider it. Joe Eichler paid $900 extra per house to get the wires buried in his plushest Palo Alto tract. Robert Alexander paid $1,000 per house extra in Palm Springs.

But today most progressive utilities offer underground service in new developments for not more than $150 a house extra; some offer it for as little as $50.

For this big cut in the extra charge you can thank three changes:

1. *The changing attitude of the electric utilities.* Three years ago many power companies were loading their charges for underground wiring just to keep homebuyers and homebuilders from demanding it. Now more and more of them recognize that its heavier first cost is also the last cost, because buried wires are safe from ice, snow, sleet, storms, hurricanes, and tornadoes.

2. *The changing attitude of the telephone companies,* most of whom now offer to bury their lines for nothing in new tracts (partly for smart public relations, partly to minimize maintenance costs and service interruptions in bad weather). When telephone lines go underground the power company has to pay all instead of half the pole costs (about $70 a pole), so power company costs for overhead wiring are going up while underground wiring costs are coming down.

3. *A big change in the actual cost of underground wiring,* because

   a. Direct burial cable (now approved by all up-to-date codes) is fast replacing conduit, which costs three to six times more in place.

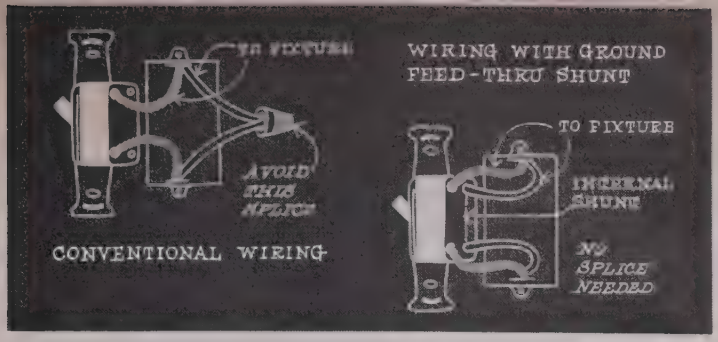
   b. Polyethylene insulation is replacing rubber and neoprene, and it costs about 25% less (60¢ to 70¢ a foot vs 80¢ to 90¢).

   c. Pad-mounted transformers are replacing buried transformers, which cost two or three times as much because they had to be waterproof, not just weatherproof.

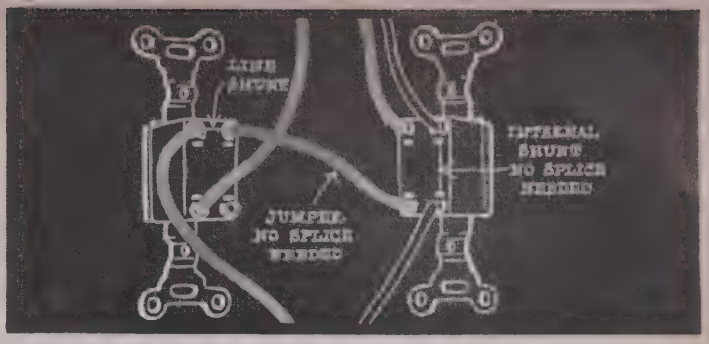
   d. More and better small trenchers are available. They work faster, require less labor per foot of trench.

   e. Telephone and power lines can now be laid side by side in the same trench. (Until this year the telephone company was afraid this might cause static.)

   f. Aluminum conductors—though larger in diameter—cut the cost of secondary cables almost 20%. (Insulation costs still block the use of aluminum primary cables—the extra insulation needed by thicker aluminum wire adds more to the cable cost than the aluminum saves.)



PUSH-IN CONNECTIONS and an internal ground shunt in new single-pole switch, right, eliminate splice needed with old switch, left.



INTERNAL LINE SHUNT connects two push-in switches so they can be mounted in the same box, on the same line, with no splices.

The better-for-less news about wiring inside the house is:

1. Your electrician can save money by buying better devices instead of cheap ones, because . . .



PUSH-IN SPLICER connects four No. 12 wires, replaces wire nuts or soldered splice.



GROUNDING RECEPTACLE for three-wire split circuit has eight push-in connectors.

All the labor-saving pressure-lock push-in devices you need to wire a house the most economical way with No. 12 wire are at last available, including: double grounding receptacles, split-wired outlets, push-in splicers, single, three-way, and four-way switches, porcelain ceiling receptacles, two-circuit breakers, raceway outlets and switches. And . . .

These labor-saving devices are made only in the specification grade. They cost about 5¢ more (say $3 a house) than the competitive grade used in most homes, but . . .

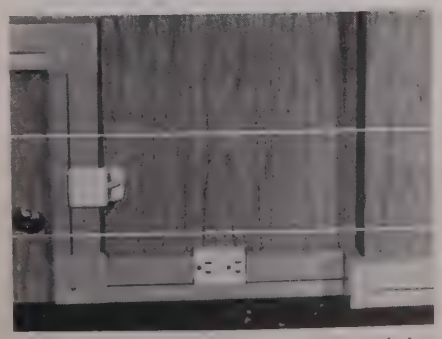
1. They save much more than $3 on labor if the electrician values the time he now wastes twisting four, six, or eight wires around screws in each device and then tightening all those screws, and . . .

2. They actually make it easier to install No. 12 wire (which carries 20 amp in two-wire circuits and 40 amp in three-wire circuits) than to use the No. 14 wire (that carries only 15 amp or 30 amp). Most electricians prefer No. 14 wire because it is so much easier to wrap around a screw terminal, but No. 12 wire, being stiffer, is easier to push into a pressurelock connector.

With No. 12 wire, the only circuits you need outside the utility area of a 1,500-sq-ft house are a three-wire split perimeter loop at baseboard level, with taps for the ceiling fixtures or perhaps a single two-wire ceiling circuit. This is much the most economical wiring plan. See *page 205*.

Specification-grade devices are much better because they all have double or triple wiring contacts instead of single contacts that are likely to arc and corrode.

2. New raceways and channels make it easier to get your circuits out of the panels



MOCKED-UP RACEWAY shows how switches and outlets go in baseboard or door trim.

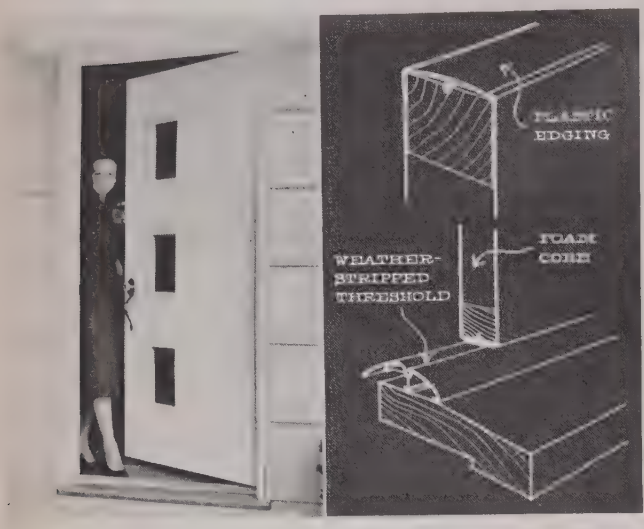
And more manufacturers are making more surface wiring systems that go together faster and easier. At least one new system lets you plug in an outlet anywhere you need it without even cutting the wires—you just cut the cover plate, pierce the insulation to make the contact, and snap in the new outlet. Second new development is combined doortrim-raceways (that also serve as switch legs) to take wires past doors without having to fish them under the floor or through the walls to the ceiling. And several new time-saving steel door frames (see *page 174*) can also serve as switch-leg raceways.

Big new reason for surface wiring is to solve the where-to-put-the-wires problem created by the new money-saving factory-made wall panels.

For the older (but still good) reasons for using surface wiring, see *page 205*.

The better-for-less news about doors is:

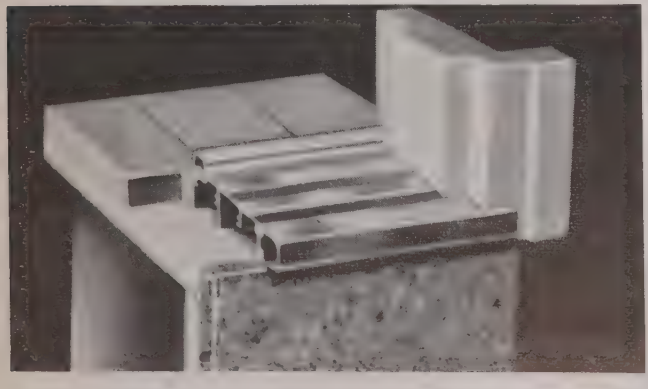
You now have 13 good new ways to cut costs



1. This is the first low-priced steel outside door

It is a sheet steel sandwich 1¾″ thick, with a foamed core, wood stiles, and plastic edges. It is warpproof, solid sounding, insulating, and prehung in a weatherstripped wood frame. The manufacturer makes it in exactly the same nine designs (plain flush or a choice of eight light arrangements) as his solid-core wood door and prices it $2.32 lower. And with either wood or steel the manufacturer offers an aluminum combination storm-screen door prehung in the same frame for $4 less than he asks for the combination door separate and not prehung.

Says Builder Bob Schmitt: "This kind of unit saves $25 an opening under what it would cost me to buy the doors separately and hang them on the job."



2. You can buy door frames with flat-bottom sills

These sills need no on-site fitting, for their slightly triangular shape saves cutting back the subfloor and rim joists to get a sloping top. One make has a foamed polyethylene bottom that fits watertight to the subfloor. A second make includes a vinyl thermal break in its aluminum threshold, which is hinged on the inside to adjust to any kind or thickness of flooring.

3. You can buy door panels to match window panels.

The door frame is fitted to the studs, and you can get your lumber yard to pre-hang a door in it.

Lenscraft



4. You can buy packaged prehung sliding glass doors

They take less than five minutes to install. They come preassembled, fully glazed, ready to go in the opening as soon as they are uncrated. Integral fins let you face-nail them in place with ten nails, with no shimming or blocking. Prices start at $45 for a 5′ wide door.

5. In more expensive sliding units, you can get . . .

a. a thermal break in the metal frame for cold climates,
b. tempered glass to give a view unbroken by even a narrow stile,
c. wood frames to match wood windows.



6. You can install interior door frames in 5 minutes

These new steel units, made by several firms, can save you at least $2 an opening on installation alone. The specifics:

a. They snap over the drywall and eliminate all edge spacing.
b. The three parts—head and two jambs—are premitered with interlocking joints.
c. They are preprimed.
d. They are preformed to take door butts without mortising.
e. They need no sanding, nail setting, nail-hole filling.

f. They adjust to out-of-plumb openings with minimal fitting.
g. They fasten with only two or four screws.
h. They adjust to opening height without cutting.

And they can save $2 to $5 more with some units because:

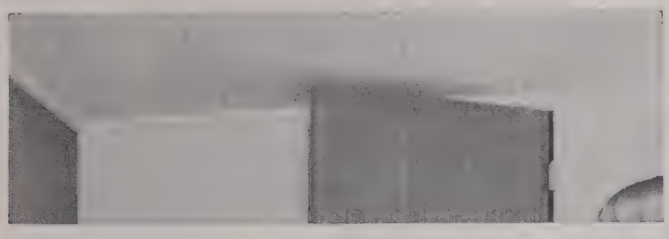
a. They can serve as switch leg raceways for surface wiring.
b. They come with baked enamel finishes.
c. They come with prehung wood or metal doors.
d. They come for 6′8″ and 8″ heights.

7. You can buy interior doors prehung for 82¢ extra

You have your choice of hardboard, birch, lauan, flush, or colonial doors. Hinges are mortised, lock mortises drilled, latch plate holes drilled, and doors trimmed. Frames and doors have butts attached, but pins are removed so package can be shipped kd.

8. You can buy quality doors with durable plastic faces

Various manufacturers use various facing sheets—polyesters, vinyls, diallyl phthalates—but the end results are the same—a smooth protective finish that will take heavy punishment without showing any damage.



9. You can buy ceiling-high doors of all types

And they will save up to $10 an opening on your framing costs. These doors are available in architectural and prefinished plywood, prefinished hardboard, and other surfaces. They come fitted for inset or flush mounting, require no filler panels at the head. Ceiling-height doors cut air stratification at the ceiling and give better air circulation. But don't use them casually—ceiling-height doors need to be carefully integrated into the design or they'll create buyer resistance.



10. You get better closets with ceiling-high doors

You can use wood, steel, or woven fabric units—louvered, flush, or panel; unfinished, primed, or prefinished; sliding, swinging, or bifold. Whichever you choose you'll save up to $15 an opening and get a more usable closet to boot. One maker of steel bifold units charges about $10 more for doors for a 6′ or 8′ opening, but they save $10 in materials and $15 in labor needed to frame the narrow band of wall above conventional 6′8″ closet doors.



11. You can buy prefabbed cabinet fronts

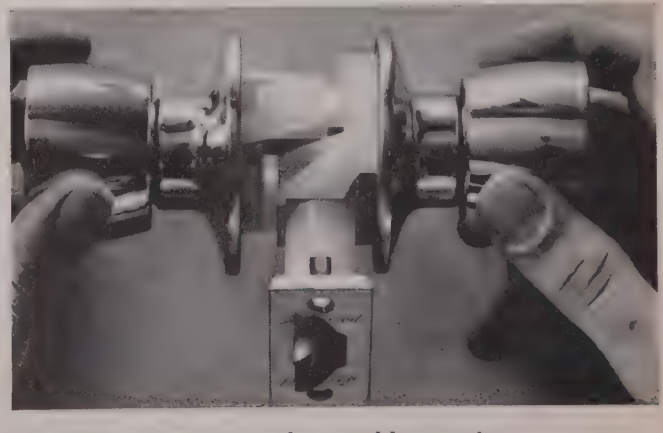
One manufacturer offers a wardrobe front with two 5½′ bifold doors at the bottom, two shorter ones above. Stiles and top rail nail directly to the wall or a framing strip to eliminate trimming.

The same maker has an 8′-high linen closet with a nail-on front for shelves. It includes frame, doors, knob, catches, hinges for a tall pair of doors at the top, drop-down and swing-out doors at the bottom. No additional trim is needed.



12. You can buy locksets that go in twice as fast

They need no mortising for lock, latch plates, or strike plate. All parts are installed in holes drilled with a special jig. The strike plate is simply pushed into a 1″ hole in the jamb, and special staking pliers expand the sides of the strike box to lock it in place (see left picture). There are no screws. The round latch is pushed into the hole in the door edge (see right picture). The lockset holds it in place. And two screws in the rosettes hold the lockset to the door.



13. New locks have nylon working parts

These, the maker claims, will last the life of the house—the nylon is self-lubricating, will wear for years. And the price is competitive.

The better-for-less news about windows is:

You now have 12 good new ways to cut costs



1. You can now save $25 a house by using factory-primed sash and frames

Fischer & Frichtel save $2.50 a window by paying $1.50 more for factory-primed windows. But they pay their painters only $4 for the two finish coats vs $8 for the three coats needed to finish a raw window. The big saving comes in the time it takes a painter to work the prime coat into the joints, under the weatherstrip, and into the wood. The top two coats go on much faster.

Because the windows are spray-primed before they are assembled, they are better protected in corners and hidden parts. Prepriming also cuts weather delays. If an unprimed window gets wet, it has to dry for two or three days before it can be painted. But a primed window can be painted almost at once. What's more, the finish coat can be delayed up to six months after an alkyd-base primer. The old oil-base primers had to be finish-painted in two weeks or reprimed.

2. You can now buy 1″ insulating glass cheaper than ever before

It is now made of two pieces of 3/16″ sheet glass (instead of ¼″ plate) and it's edged in plastic (instead of metal). A 35½″x48½″ pane costs $33.44 in the new sheet glass, $41.87 in plate; a 80½″x50″ pane costs $72.97 in the new sheet, $94.97 in plate.

3. You can now buy double-glazed picture windows for half the price of single-glazed double-hung windows

There are four reasons why you save money:

a. The windows are cheaper: a 6′x4′ picture window costs about $50, $11 less than three 2′x3′10″ double-hung windows or $3 less than two 3′x3′10″ double-hung units.

b. They cost less to paint: it would cost $24 to paint the three double-hung windows or $18 to paint the two bigger units, but only $6 to paint the picture window.

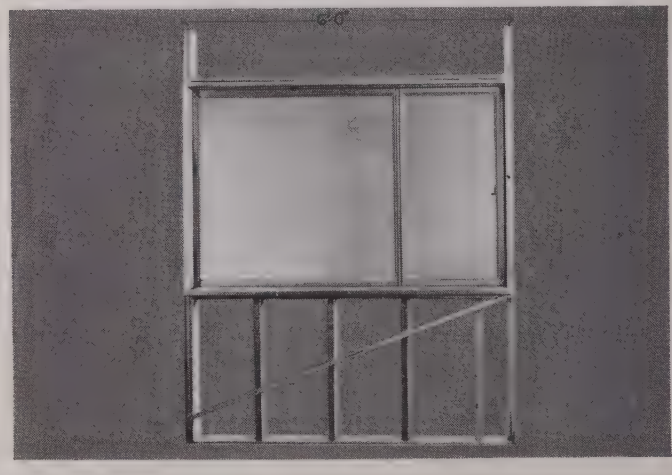
c. You can omit storms and screens: this comes to $10 a unit for separate storms and screens, about $13 a unit for the cheapest combination windows.

d. And you may save on installation: a single picture window may save up to $5 over the double-hung units (but multiple-unit windows may eliminate this saving).

Total saving: $11 on materials, $18 on painting, $30 for storms and screens=$59.

4. You can now buy casement windows with concealed, self-locking hardware

Only the operating crank shows inside the room. There are no visible latches on the frame. And the self-latch locks tight and guarantees minimum infiltration. An added advantage: Because the operating crank releases the locks, it is almost impossible to strip the gears of the roto-operator.



5. You can now buy factory-made structural window-wall panels up to 12′ long

And they come in almost any style you need: double-hung, casement, picture window, hopper, and awning units. They come in factory-framed sections 3′, 4′, 6′, 8′, and 12′ out-to-out to fit any modular wall-panel system, with single glass, insulating glass, big panes, small panes, or snap-in muntins. They come preprimed. They come with plywood box headers to act as load-bearing panels—all you need is a single 2x4 top plate instead of a double 2x6 to tie the panels together.

With these windows you save up to $20 an opening, depending on how big and how efficient your operation is. A typical 4′ panel with double-hung sash costs only $5 to $8 more than the window alone. Job-site framing, blocking, sheathing, shimming, plumbing, cutting, and fitting are all eliminated—a $10 saving in itself.

6. You can now buy metal-framed windows that won't cause condensation problems

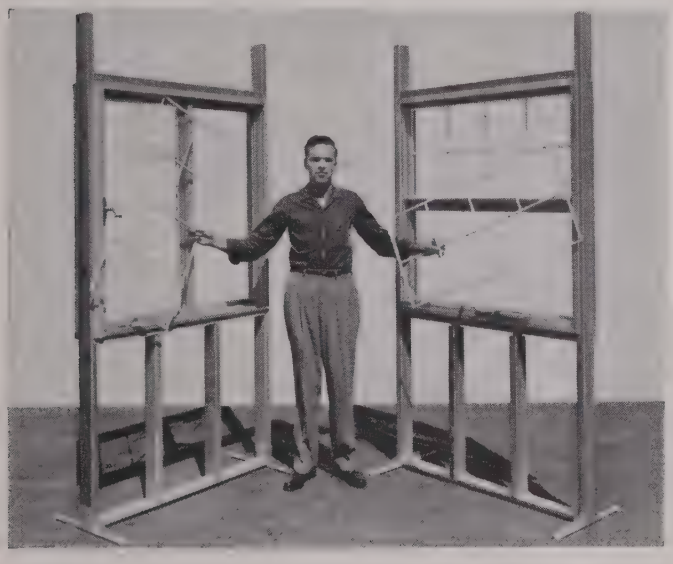
Several manufacturers now use a plastic or wood thermal break in the window frame to cut heat loss through the highly conductive metal. One system uses an inner wood

frame which also acts as a nailer strip, cuts installation time to five minutes a window.



7. You can now buy modular windows that trim out to a full 4′ width inside and out

This means you can use big sheet materials efficiently on interior and exterior walls—there are no narrow strips to be filled between the sash and the next panel. Outside easings are 3″ wide to cover panel edge studs.



8. You can now buy snap-in muntins that let you offer the small-paned look with any double-glazed window

You can use them with double-hung windows, single-hung windows, sliding windows, casement windows, hopper windows, awning windows, or even 4′x6′ picture windows. And you can install a single window and still offer diamond lights, small colonial lights, horizontal lights, or single lights—after the house is built.

A window-with wood snap-in muntins costs about $1.50 more than one with real muntins, but it saves up to $5 in painting costs. Plastic muntins cost slightly more but they need no painting at all and they are sturdier.

9. You can now buy top-quality metal windows that won't cause call-back problems

Thanks to the Aluminum Window Manufacturers Association and the nip of competition, most metal windows are now made of heavier tubular extrusions, have welded or riveted corners, are weatherstripped with vinyl bulb or woven pile. And withal, the price of good windows has come down since 1956.

10. You can now buy aluminum windows that nail to the opening without blocking or shimming

And you can get almost any style of aluminum window with this nail-on, fin-trim feature. When the window opening is framed and sheathed, the whole window is set in the opening, and nailed to the studs through the edge fin. When the siding is on, it covers the window fin.



11. You can now buy steel basement windows that serve as their own concrete forms

The frame is installed in the wall before the concrete is poured so that, with the pour, the window frame becomes integral with the wall. There are no separate forms to install, strip, and maintain. And you can get sliders, casements, and awning windows like this.



12. You can now buy bow windows that are load bearing, use fewer pieces, or come completely framed

Completely framed units have mullions dovetailed and jambs dadoed into curved seat and head boards. This allows narrow, lighter mullions. Lower overall weight allows easier handling. Lower bulk means lower cost—up to 20% less in some instances.

Or stock window units can be assembled in bow arrangements with stock mullions developed by some makers. This inventory control keeps bow prices down with flat panel prices with the same glazed area.

And a Douglas Fir framed unit, three panes high, has heavy mullions to take the roof load. It comes knocked down or assembled with single or double, plate or insulating glass.



It's the voice of RCA WHIRLPOOL home appliance owners who are interviewed during continuous surveys by Whirlpool Customer Assurance people. It may be pleasant, complimentary or critical. But, regardless of tone or inflection, this voice is considered the most impressive in all our plants; impressive because it is a governing factor in the styling, engineering and manufacturing of our products; impressive because it inspires every effort to assure top-quality performance and customer satisfaction. By talking to users of RCA WHIRLPOOL home appliances . . . by heeding their frank criticisms and suggestions . . . we are able to anticipate future demands and make the advancements that do so much to accelerate your sales. Another reason why we say, "Your greatest asset is our quality performance!"

Whirlpool CORPORATION
ADMINISTRATIVE CENTER, BENTON HARBOR, MICHIGAN

Manufacturer of RCA WHIRLPOOL Automatic Washers • Wringer Washers • Dryers • Washer-Dryers • Refrigerators • Freezers Ice Cube Makers • Ranges • Air Conditioners • Dishwashers • Food Waste Disposers • Dehumidifiers • Vacuum Cleaners.

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An opportunity to gain national recognition for the houses and garden apartments you build or design. An awards program intended to promote and recognize good residential design, and to encourage better builder/architect collaboration.

SEVENTH ANNUAL HOMES FOR BETTER LIVING NATIONAL AWARDS PROGRAM

sponsored by
THE AMERICAN INSTITUTE OF ARCHITECTS in cooperation with LIFE and HOUSE & HOME

All award winners will be published in HOUSE & HOME.
A selection of winning entries will be published in LIFE and TIME.
All winning entries will be displayed at the AIA convention in Dallas and at the Octagon in Washington, D.C.

Any house or garden apartment in the US, custom-built or built for sale, is eligible if designed by a registered architect and completed since Jan 1959.

JUDGES—Outstanding architects, housing industry leaders, and the editors of LIFE and HOUSE & HOME will judge the entries.

AWARDS—Awards will be made on the basis of outstanding contributions to better living through residential design, site planning, and construction. Award winners will be announced at the 94th Annual Convention of the AIA in Dallas, May 7-11, 1962.

Awards will be made in three major categories.
1. CUSTOM-BUILT HOUSES designed specifically for an individual owner, divided into three classes according to size:
   a. Under 1,600 sq ft of living space.
   b. Between 1,600 sq ft and 2,800 sq ft of living space.
   c. Over 2,800 sq ft of living space.

2. MERCHANT-BUILT HOUSES designed for a builder and sold speculatively, divided into three classes according to sales price:
   d. Under $15,000
   e. $15,000 to $25,000
   f. Over $25,000

3. GARDEN APARTMENTS of four or more living units.
   g. Single buildings
   h. Multi-building groups

All entry slips must be received with an entry fee of $10 per house before Jan 12, 1962. Separate slip must be made for each entry. Make facsimile or request additional entry blank for more than one entry.

Entry slip

This slip and entry fee must be in the hands of the committee by Jan 12, 1962.

category _____ location _____

builder _____ architect _____

submitted by _____

address _____

The Homes for Better Living Awards Committee,
American Institute of Architects, 1735 New York Ave., NW,
Washington 6, D.C.

Enclosed is ☐ (check) ☐ (money order) in the amount of $10 covering the above entry.

Make check payable to Homes for Better Living Committee.

BUILDING FROM 75 TO 100 HOMES A YEAR. Dalco is currently developing two areas in Fargo. Their basic development consists of 12 to 18 thousand dollar homes; their higher priced development ranges from 25 to 45 thousand dollars. Model homes are furnished—with emphasis on nationally known brand names.

"$20 per opening is a big saving

DIVERSIFICATION IS A KEY FACTOR in success of Dakota Lumber & Builders, Inc. They build packaged summer cabins (also using Andersen units)—small apartment buildings, some light commercial construction, and some farm construction.





THIS IS HOW THE STRUTWALL* CUTS INSTALLED COSTS

With Andersen Strutwalls the (A) jack studs, (B) top and bottom nailers, (C) glazing, (D) hardware and (E) side struts are factory installed. (Also available—prime painting, sheathing and plywood box headers.) Your labor is cut to a minimum—because you just cut the two side struts (E) and tip the unit into place. On-site installation problems are virtually eliminated. These are the reasons the Strutwall can beat most windows on "cost installed" figures.



.we get it with Andersen"

MR. JEAN AKRE, MR. JACK AKRE, MR. LEE TARVESTAD, DIRECTORS OF DAKOTA LUMBER & BUILDERS, INC.

They have been using Andersen Strutwalls* since 1958. "We figure they can save us about $200 per home. The units are always square. There's no time lost in window adjustments—no time lost by carpenters in exterior or interior finishing.

"We don't have to stuff insulation all around the windows. We save on labor in cutting cripples, headers and jack studs. We added everything together—and figure we come out with a saving that's about $20 per window and exterior door opening."

WINDOWS NOT PAMPERED

"We don't pamper the window units. We built the entire wall on the ground —the windows, as well as sheathing and sheet rock—special jacks crank the wall into place. We used to have to set windows in later—this made double work."

BUYERS PREFER ANDERSEN

Dalco uses the Andersen brand name to help them move their houses. They demonstrate the window operation and sell buyers on how Andersen units help them cut heating and air conditioning bills. They've found that most buyers have heard of Andersen, and are acquainted with its quality reputation.

GET FULL DETAILS. Call your lumber or millwork dealer and find out how Andersen Windows can help you save. Do it today.

Andersen Windowalls* AW

*TRADEMARKS OF ANDERSEN CORPORATION

ANDERSEN CORPORATION • BAYPORT, MINNESOTA

"A SEPARATE THERMOSTAT IN EVERY ROOM has big appeal for customers," Bauman states. "They can keep every room exactly as they want it—and it's quick."



"BASEBOARD UNITS SAVE SPACE," Bauman adds. "This feature gives homeowners more flexibility in decorating. The heat is clean, even and quiet, too."



"ACCURATE HEATING ESTIMATES are a big factor in closing sales," says Bauman. Here Northern States Power representative Stan Traczyk and Bauman discuss wiring and insulation for a new home. Bauman insulates with fiberglass batts and a polyethylene vapor barrier for top heating efficiency and economy.



"SATISFIED HOMEOWNERS ARE MY BEST INVESTMENT," Bauman says. "It's what these customers say that sells new prospects," he adds. Mr. and Mrs. W. C. Mitchell are delighted with the clean comfort and room-by-room temperature control they enjoy with flameless electric house heating.

"I profit two ways when I install flameless electric house heating"

Custom builder Paul Bauman of Minneapolis, Minn., tells why he's among the many aggressive builders now installing flameless electric house heating in over 400 homes per day

"Installing electric baseboard heating in the homes I build saves me time and money in construction," says Paul Bauman.

"The thing that saves time is that my electrician wires in the heating along with the rest of the electrical work. I don't have to wait on sub-contractors and I can schedule insulation work so that I wind up ahead in terms of time. I save money because there are no vents or ductwork with electric baseboard heating and there's no labor needed to frame around them.

"There's another important point, too. The simplicity and durability of these electric house heating units mean fewer callbacks and complaints for me—more satisfied customers," he adds.

"To keep homeowners satisfied I put a lot of time, effort and the finest materials into these $30-80,000 homes. Then I don't hesitate to direct prospects to my customers. It's what these customers say that makes the next sale," Bauman says.

"And speaking of satisfied customers, I'm one myself. I like flameless electric house heating so much that my new home here is a total electric home. And my family agrees that the most comfortable heating we've ever had is electric. Also, with four children, my wife and I are glad to know that it's flameless," Bauman concludes.

Like Paul Bauman, up-to-date builders all across the nation have found that it pays to install and promote flameless electric house heating. That's why it is now going into new homes at the rate of over 400 per day.

Why not find out how electric house heating can help you? Get detailed information now about the five basic types of electric house heating: baseboard, ceiling cable, wall panel, heat pump and electric furnace. A call to your local electric utility company will bring you the facts.



SEE OUR EXHIBIT



With Flameless Electric House Heating

YOU LIVE BETTER ELECTRICALLY

Sponsored by Edison Electric Institute

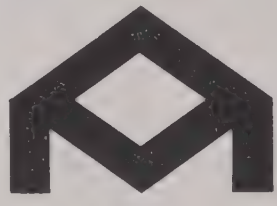
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September 22, 1961

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How many ways

can you add light . . . space . . .

interest . . . luxury to these rooms

with one

remodeling

material?







...With *Glass* by A-SG

there are hundreds of ways... here are just three!

Yes, American-Saint Gobain makes more types of glass than any other manufacturer. So we have ways to give light, space, [illegible] most remodeling op[illegible] Whether it's ready surface ma[illegible] or impr[illegible] or an [illegible]

No wonder leading builders and architects depend more and more on glass — for modernization as well as new construction. Glass gives elegance . . . glass gives easy care . . . glass gives value far beyond cost. These are 'extras' that you can *sell*. And remember: glass can replace *costlier* installations. A patterned glass wall, for instance, eliminates lathing, plastering, decorating on both sides . . . requires far less labor and is completed sooner.

You can profit by letting glass do more of the work in your next project. You'll be amazed at how many problems can be solved . . . how many imaginative ideas suggested . . . by the broad, modern line of glasses by AMERICAN-SAINT GOBAIN.



(Left) The sparkling water-drop pattern of Beadex® glass brings a glamorous interplay of light and color to this Oriental setting. Its informal, modern design is equally at home with both ornate and simple furnishings. Beadex is a practical glass with a look of luxury.

(Right) Huewhite® glass permits complete separation of functions in this French Provincial setting, while transmitting abundant daylight. Instead of static, lifeless surfaces, this elegant, finely patterned white glass provides a dramatic exchange of light, color and space.

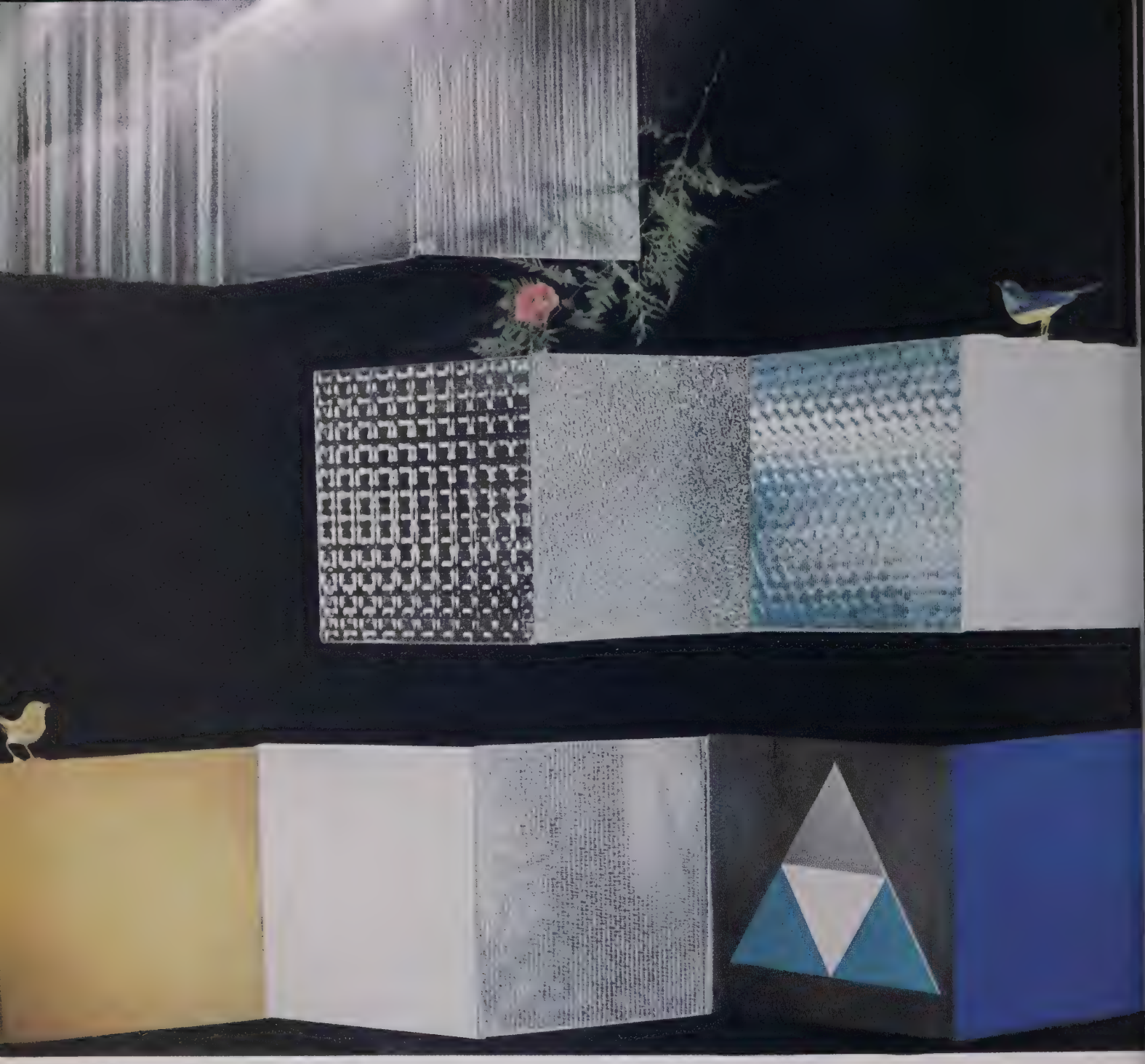
(Below) This partition of hammered, wired Aklo* glass makes a striking display backdrop, divides areas without any abrupt visual barrier. Aklo serves here as a color accent in harmony with the Early American decor. **Reg. T.M. — Lic. by Corning Glass Works*

Room designs—Gilbert A. Gray, A.I.D.



AMERICAN-SAINT GOBAIN

Creative ideas in glass



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BY A-SG

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OF DESIGN IDEAS...

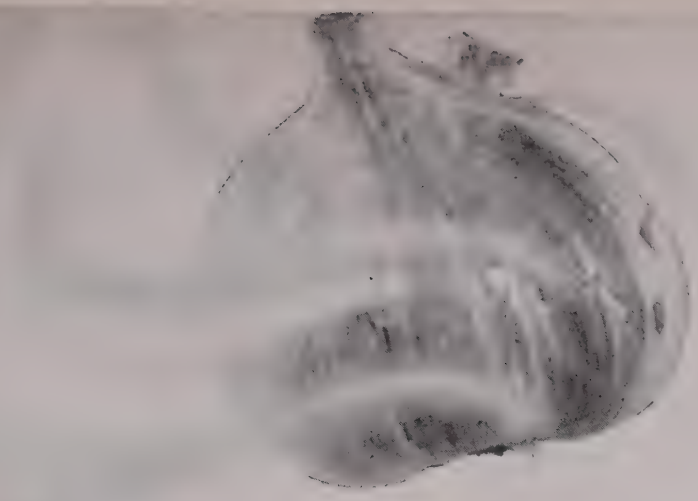
REMODELING IDEAS...

SALES-STIMULATING IDEAS

This sampling of A-SG glasses suggests the wide choice of patterns, textures, colors — and clear sheet glass — available from a single supplier. The A-SG line includes all major types of flat glass. For full information, call the A-SG sales office nearest you, or write: American-Saint Gobain Corporation, Box 929, Kingsport, Tennessee.

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BROAN MIXED-FLO RANGE HOOD* is the solution to "garlic problems" in any kitchen. The Broan Mixed-Flo discharges vertically or horizontally and conserves valuable cabinet space. Completely prewired and preassembled for most efficient installation. Mixed-Flo engineering provides high pressure for easy duct runs. Insure that your customers will be happy in your kitchens. Specify Broan and keep garlic from becoming a kitchen problem. Ask your distributor about Broan Range Hoods.

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*Meets HVI and FHA Requirements

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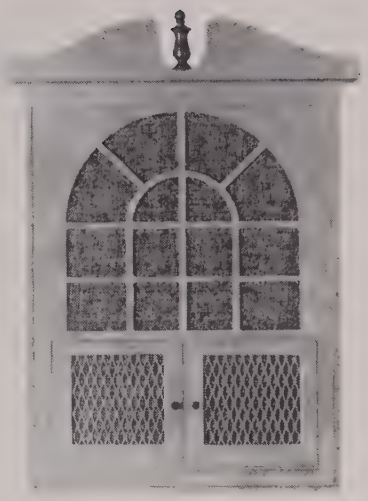
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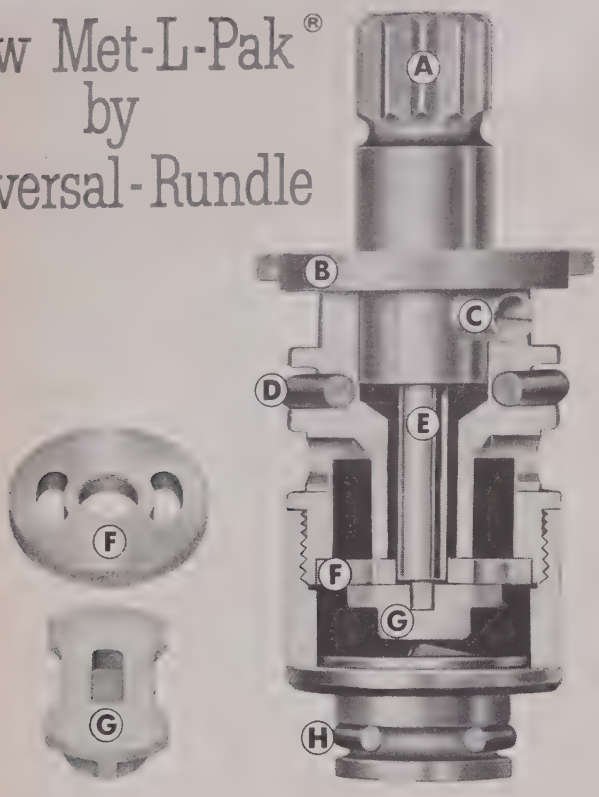
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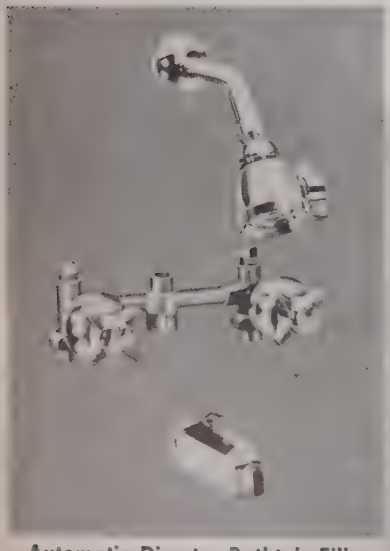
New Met-L-Pak® by Universal-Rundle



Exclusive new metal-to-metal faucet control cartridge uses no washers, packings or threads . . . makes other systems obsolete . . . assures home buyers satisfaction . . . eliminates costly, troublesome repair costs.

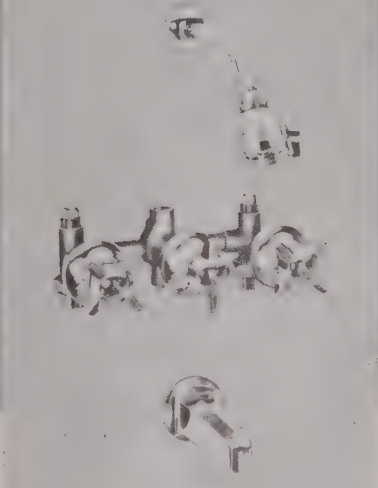
Check all the dependable features of this outstanding new unit: A—Extra deep broaching assures secure handle grip. B—Locking lugs provide positive positioning of cartridge. C—Roll-pin stop assures handles shut off in same position. D—Entire unit is sealed with permanent "O" ring. E—Stem is completely isolated from water eliminating possible corrosion. F & G—Precision-honed and matched plates are designed for longer life and maintenance-free service. H—A compression "O" ring seals against line pressure. Lastly, MET-L-PAK can be installed quickly without special tools. **For more details, write Universal-Rundle Corp., 723 River Road, New Castle, Pa.**

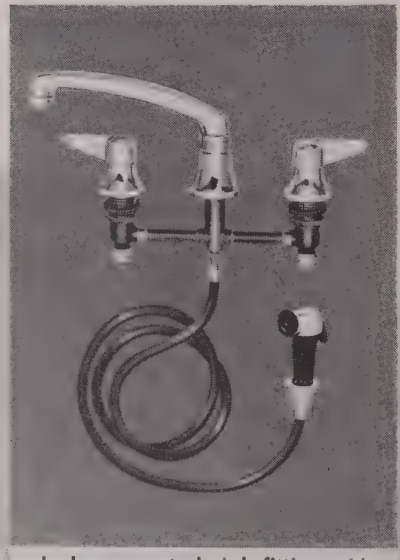
Met-L-Pak available on all Universal-Rundle Luxury Trim Fittings



Automatic Diverter Bathtub Filler and Shower Combinations. New valve body simplifies shower and spout piping . . . adds longer life to installations.

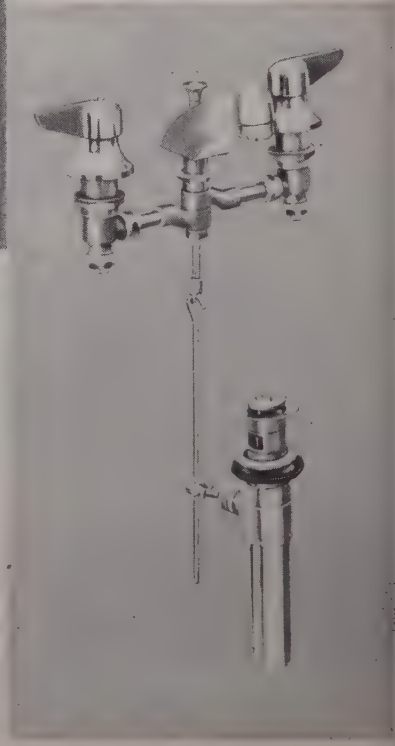
Three-Valve Diverter Bathtub Filler and Shower Combinations. Third valve controls flow of water to either tub or shower.





Ledge mounted sink fitting with swinging spout faucet, spray and aerator. Top mounted fittings also available.

Combination Lavatory Fittings available for either 8" or 12" centers. Popular 4" centerset fittings also available.



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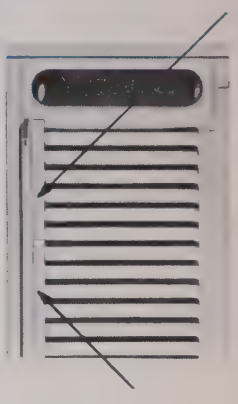




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Float-Away Metal Closet Doors Operate Soundlessly!



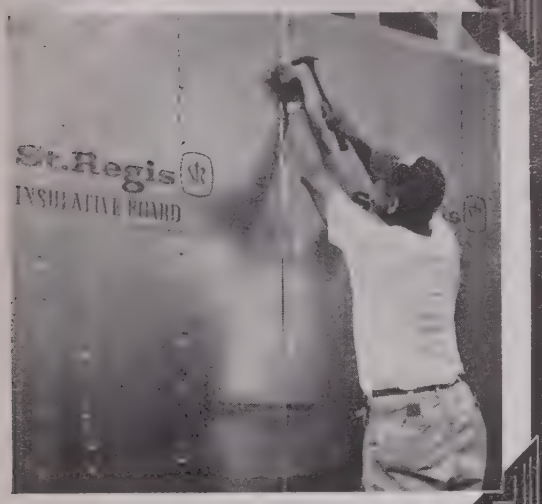
Yank open a Float-Away closet door! There's no clang or bang...whisper-quietness...just one more of the many reasons for Float-Away's prestige leadership in the closet door field. Other Float-Away quality features:

- Side trim furnished–no other molding needed ....**Float-Away exclusive.**
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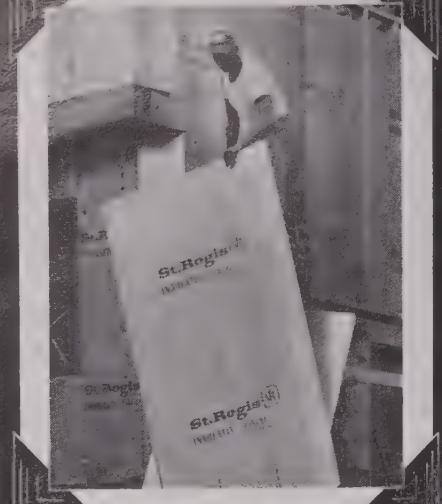
Wall-to-Wall, Floor-to-Ceiling Float-Away doors save you substantial money per closet by eliminating need for materials and labor. The Float-Away system provides greater convenience, storage space, and beauty. Don't settle for less. Write, wire or phone today.

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Qualified firms selling to builders and contractors are invited to inquire.



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St. Regis Insulative Board provides up to *3 times more insulation value* than many popular sheathings. Its extreme light weight, lapping features, ability to bend around corners means you *can save ½ the time, or more,* in application.

The aluminum foil surfaces are perforated to allow "breathing". A 4′ x 8′ sheet weighs less than 7 lbs. . . . you can carry enough for an entire house in a station wagon! Door and window openings can be cut out with a knife *after* it is up! Complies with FHA Minimum Property Standards. These are just a few features of this revolutionary building material.

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Plywood: Douglas Fir Plywood, DFPA grade-marked; Larch Plywood, DFPA grade-marked. ***Hardwood-faced Plywood:*** Birch, Red Oak, Ash, Madrone, Philippine Mahogany, Cherry, Walnut. ***Specialty Plywoods:*** Crezon Overlaid, Medium Density; Texture 1-11, Marine Plywood, "2-4-1" Plywood, Vertical Grain Fir, Ag-Ply, Knotty Spruce, Idaho Knotty Pine.

Hallmark of Quality Products . . .

EVANS PRODUCTS COMPANY
PLYMOUTH, MICHIGAN

BUILDING MATERIALS DIVISION

Build Right—Choose Evanite

Hardboard: Standard, Tempered, Prefinished, Perforated, V-Grooved, Corrugated, Exterior Siding, Garage Liner. ***Poly-Clad*** (t.m.) ***Plywall®*** *Pre-finished and matching* Plywood Paneling, Moldings, Bi-fold Doors, Cabinet Stock, Wainscot Panel Kit, Doors.

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Evans is a member of the Douglas Fir Plywood Assn.

Sales Offices: Chicago, Ill. • Tampa, Fla. • Coos Bay, Ore. • Anaheim, Calif. • Syracuse, N.Y. • Plymouth, Mich.

How much does a dishwasher really cost a builder?

DISHWASHER COSTS *plus* INSTALLATION COSTS

Now–Save $82.00 when you install the NEW LING-TEMCO DISHWASHER!

(THE MONEY YOU SAVE INSTALLING 2 LING-TEMCO'S—PAYS FOR A 3RD LING-TEMCO)



Mount It On The Wall. Save drain air gap costs on this—and 7 other L-T installations.



Install It In The Wall. Save drain pump costs on this—and 7 other L-T installations.



Below A Range Burner Or Counter Top. Save $40 in floor space—on every L-T installation.

Most dishwasher prices look competitive on the surface. But—it's the installation costs that break a builder's budget.

Now—you can save $[illegible] on your next dishwasher installation by installing the world's most advanced, most versatile dishwasher: the New LING-TEMCO, the most competitively priced dishwasher on the market!

Save $10 Or More On Drain Air Gaps. Only L-T comes complete with drain air gap, that must be added to other dishwashers. Save $5 or more because you needn't buy it, another $5 or more because you needn't install it.

Save $15 Or More On Drain Pump Costs because most L-T locations require no drain pumps.

Save $40 Or More In Floor Space because there's no floor space needed. Ling-Temco eliminates 4 square feet of floor space every other dishwasher requires.

Save $7 Or More On Front Panel Costs because only L-T has a neutral color front panel to match every kitchen decor. No accessory panels to buy.

Save $10 Or More In Installation Time because L-T's exclusive Couplermatic permits pre-installation of plumbing connections. Slide dishwasher in anytime later.

Add it up—every time you install a Ling-Temco dishwasher you save a fat $82, a cost burden that has always been tied to every dishwasher installation. On 2 installations—you have more than enough money to pay for a 3rd Ling-Temco dishwasher.

Now—Builders can afford to put the Ling-Temco dishwasher in their least expensive homes. Plan dozens of exciting, new, saleable kitchen ideas. Enjoy the extra value it adds to their kitchens and save $82 or more—to boot!

Approved by Underwriters Laboratories

ONLY LING-TEMCO...Ends Water Spots and Streaks because it produces its own distilled water ■ Steams Dishes Clean with a 12½ Minute Steam Bath ■ Just Scrape—then let the L-T dishwasher rinse and wash...Unique filtering system ends food particle feedback.

Don't Spend A Dime For Another Dishwasher Until You Get The Full Ling-Temco Story.

MAIL COUPON NOW.

LING-TEMCO ELECTRONICS, INC.
TEMCO INDUSTRIAL DIVISION, P.O. BOX 6191, DALLAS 22, TEXAS

LING TEMCO ELECTRONICS, Inc.
Temco Industrial Division, Dept. HH-10
P.O. Box 6191, Dallas 22, Texas

Show me how your Ling-Temco Dishwasher can create exciting new kitchen ideas that will add to the value of my homes...and save me $82 or more on each installation.

Name .....

Company .....

Address ..... Tel. No. .....

City ..... Zone ..... State .....



MISSISSIPPI MERCHANT BUILDER, J. W. "BILL" UNDERWOOD . . .

boosts sales for third straight year with J-M 7-STAR PROGRAM!

"During the past three years, we've found that Johns-Manville's 7-Star Builder Program is an effective, important merchandising tool that helps us sell houses," says Merchant Builder J. W. "Bill" Underwood, of Jackson, Mississippi.

"In fact, we believe J-M's 7-Star Program is the best cooperative effort offered to us by any building product manufacturer!" Mr. Underwood concludes. *That's mighty high praise from a man who's rapidly becoming known as one of the nation's most progressive merchant builders!*

Why not learn how J-M's 7-Star Plan can help you? It's a complete, effective promotion, with proven selling aids that help you build traffic and sell houses—free local newspaper advertising . . . special "model home opening" promotions . . . professional, *personalized* publicity and promotion assistance . . . plus lots of sound merchandising and display materials!

Get the story from your J-M man this week. Or write Johns-Manville, Dept. HH-10, Box 111, New York 16, N. Y.

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J-M 7★ 7 STAR VALUE PRODUCTS





Use color stains on Oak Floors for added appeal

Match or accent the hues of wood-paneled, painted or papered walls with color-stained Oak Floors. The effect is attractively different because color toning accentuates the warm, rich, natural grain of Oak. Color-staining floors is a distinctive merchandising idea that will attract added interest to your model or display homes. Modern finishing materials provide a wide range of color tones which are easily applied and give distinctive, decorative results.

...k Floor... ...nufacture... ...ssociation, 814 Sterick Building, Memphis 3, Tennessee

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OAK FLOORS

give families livability unlimited



More new homes have Oak Floors than all other types combined!

Oak remains America's favorite flooring material . . . and that makes it a builder's easiest choice in residential construction. When you use Oak Floors you can be sure of buyer acceptance. Through years of experience most home buyers know that these floors combine beauty, durability and comfort to give maximum livability. They know, too, that Oak stays beautiful with less upkeep than any other type of floor. No synthetic flooring material, even at greater cost, can offer so many merchandisable features. Whatever the design or price of houses you build, always use Oak Floors for style leadership and built-in sales appeal.

OAK FLOORS

Richer looking • Longer lasting • More comfortable



Shown, front, Coro-Gard® 1706 Brand Protective Coating. Back: (l to r) Roltite® Contact Bond Cement, WEATHERBAN® Brand Sealer, CTA-50

TESTED

PROVED! 3M gives you a complete line of quality adhesives, coatings and sealers for building

For example: **WEATHERBAN® Brand Sealer** has proven flexible and strong after 10 years' weather exposure. It outlasts conventional caulking many times over, provides excellent weather resistance without shrinkage for masonry, glass, aluminum, curtain wall construction.

3M Ceramic Tile Adhesive CTA-20 supports more than ½ ton per tile after 7 days' water immersion. Together with its solvent base counterparts—CTA-11 and CTA-12 plus water-dispersed CTA-50—it offers strength and water resistance from 100% to 900% above standard requirements.

Roltite® Water Base Contact Cement—for plastic laminates and plywood, was developed to end special safety precautions. Nonflammable during application, it offers good workability, plus good heat and water resistance.

Coro-Gard® 1706 Brand Protective Coating gives longer life to rain gutters, downspouts, concrete walls, metal roofs, wood storage sheds, and similar surfaces. Resistant to water, oil, acids, alkalis and weather extremes, it has been thoroughly proved in the laboratory and in field use.

Use 3M building products with complete assurance that they provide the best in durability, consistent quality and long-range economy. For free literature, see your 3M distributor. For more information, see Sweet's Catalog, or write: AC&S Division, 3M Company, Dept. SBAA-101, St. Paul 6, Minnesota.

"Coro-Gard," "WEATHERBAN" and "Roltite" are Reg. T.M.'s of 3M Co.

ADHESIVES, COATINGS AND SEALERS DIVISION

MINNESOTA MINING AND MANUFACTURING COMPANY

. . . WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

STOP

BEFORE YOU START THAT NEW KITCHEN





STANTHONY'S Electramic Char-Broiler grills, roasts, broils. Unit with patented Cerracoals delivers even, radiant heat and true barbecue flavor—inside or outside.

Get a money-making hand from Mr. Inside-Outside

Now an economical, easy-to-install kitchen appliance with sales features that appeal to every home buyer—men and women alike! Mr. Inside-Outside enhances any range unit because it gives housewives a second oven—broiling and baking can now be done *simultaneously*. It also eliminates tedious oven cleaning, and saves valuable kitchen space. Men like its portability. Just pick it up, carry it outside and enjoy true barbecue flavor in seconds. See this revolutionary new appliance and you'll see important sales advantages that can work for you.

BUILT-IN ECONOMY and CONVENIENCE

- Motorized rotisserie and griddle top add versatility.
- Patented Cerracoals never need replacing—give barbecue flavor without fuss.
- One-piece reflector removes readily for easy cleaning.
- Continuous temperature control and safety signal light for perfect results every time.

EASY LOW COST INSTALLATION

- Needs no special wiring—uses standard 115V element.
- Saves space, fits anywhere. Only 3″ deep, it never replaces valuable cabinets or shelves.
- Handy cutting board available. Slips into counter top when Mr. Inside goes Outside.
- Fits standard 18″ base cabinet. Measures: 20 1/16″ x 14 3/8″ x 3 5/8″—serves the whole family.

COMBINATION PROMOTIONAL PACKAGE

Stanthony offers a top-quality Ventilating Hood and Broiler assuring proper ventilation for Broiler *and* surface unit. No extra charge for 48″ size hood used with most surface units. You save the cost of your present hood.

Stanthony's ELECTRAMIC® CHAR-BROILER

For information on how Stanthony's Electramic Char-Broiler can help you build sales and the name of the warehousing distributor in your area, write: Stanthony Corp., Los Angeles 39, Calif.

A DOOR FOR EVERY OPENING... NOW CUSTOM-TAILORED TO EVERY DESIGN

Weldwood® Doors—with faces, cores, and constructions to fulfill every building requirement—now come cut to fit your openings, machined to fit your hardware, and finished to meet your specifications. The performance of each Weldwood Door is guaranteed, in writing, by United States Plywood.

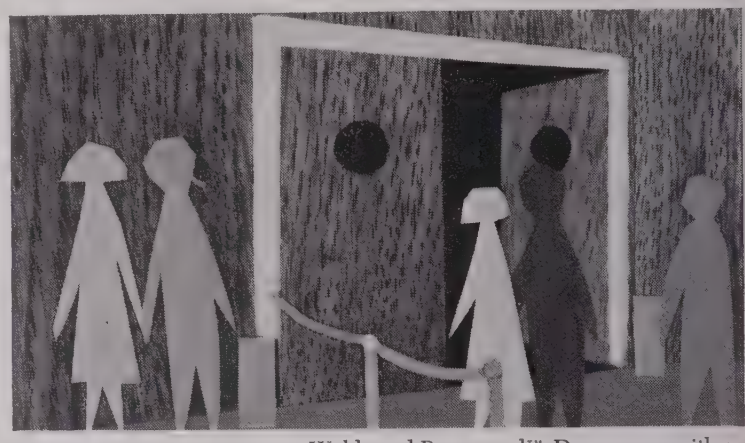
Weldwood Algoma-Made Doors assure the architect of the exact finish he prefers and permit him to maintain critical control of door hanging with greatly reduced labor and handling costs. For 16-page catalog describing the complete line of Weldwood Doors, see your Sweet's File, or mail the coupon.



FIRE PROTECTION. Weldwood wood faced Fire Doors, with incombustible Weldrok® cores, stop both flame itself *and* destructive heat. Doors available rated and labeled by Underwriters' Laboratories, Inc., for Class "B" (vertical shaft) and Class "C" (room and corridor) openings.



EXTRA-WIDE. Current demands for residential entrances up to 4 feet wide require the stability, strength, and soundness of Weldwood Stay-Strate® Doors. The Weldrok mineral core is covered with any of a wide range of beautiful hardwood faces with matching edges.



HEAVY-TRAFFIC DURABILITY. Weldwood Permagard™ Doors come with a tough, invisible resin compound film permanently fused to the hardwood faces. The beautiful, real wood doors have unprecedented resistance to scuffing and staining; retain their original beauty under heavy-duty wear.



SUPERB PAINT RETENTION Weldwood Hardboard Exterior Panel Grade Doors need only 2 coats of quality paint for colorful, all-weather beauty that lasts up to 5 years. Overlaid [illegible] perfect paint surface and minimize [illegible]



SOUND CONTROL. Weldwood wood faced Acoustical Doors cut sound transmission from 35 db to 51 db. Highest db cut represents doors hung double in opening. As beautiful and easily hung as any Weldwood flush door, they are priced far below earlier types of sound-retarding doors.

Other Weldwood Doors for your special design needs

Algoma-Made Custom Royal Door – with [illegible] faces.

[illegible]de Staved Lumber Core Door—all-p[illegible] residential, industrial, and inst[illegible]

[illegible]ecial Purpose Doors – Metal [illegible] Louver, Hospital (with sta[illegible]

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Please send me a copy of the new 16-page booklet, "Weldwood Architectural Doors," which gives specifications and detailed drawings on the full line of Weldwood Doors.

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New American Scored Tile® brings new glamor to bathrooms

This distinctive bath-dressing room was created with American Olean crystalline glazed tile in a brand new scored design—SD-5. The effects possible with this new Scored Tile are unusually rich and decorative—providing a look of custom-design without custom costs. With Scored Tile you can give rooms a new and different look that makes homes easier to sell in today's competitive market. Send for color booklets showing many other distinctive new design ideas.

AMERICAN OLEAN TILE COMPANY
1637 Cannon Ave., Lansdale, Pa.

Please send me Booklets 452, "Color Planning with Ceramic Tile," and 1021, "Crystalline Glazes and Scored Tile."

Name_____
PLEASE PRINT

Company_____

Address_____

City_____ Zone____ State_____

Bathroom Illustrated: Walls: Scored Design SD-5, 335 Cr. Aqua, 365 Cr. Whit Vanity Walls and Countertop: SD-5, 320 Cr. Brown, 332 Cr. Toffee. Floor: SD-5 an 4¼" squares, 335 Cr. Aqua, 362 Cr. Charcoal. Plate No. 121

CERAMIC TILE
American Olean

AMERICAN OLEAN TILE COMPANY • EXECUTIVE OFFICES: LANSDALE, PA
A SUBSIDIARY OF NATIONAL GYPSUM COMPANY



Huge mirror makes small home seem large

for H. E. Reichle, Inc., Toledo, Ohio



See how space dramatically multiplies. The 11'7" x [illegible] room in this split-foyer model home seems [illegible] it really is. And the mirror, placed [illegible] reflects light to brighten the [illegible] sparkle that immediately in-[illegible]

[illegible] Crestwood development in [illegible] (Toledo), are in the $14,000 to [illegible] builder has not skimped on [illegible] stance, are made of L·O·F [illegible] the finest of plate gl[illegible]

It has earned the Good Housekeeping Guaranty Seal. It's twin ground for truest reflection and more freedom from distortion.

Your prospects will respond, too. Call your L·O·F Glass Distributor or Dealer (listed under "Glass" in the Yellow Pages) for wall mirrors, sliding mirror closet doors, mirrors of all types made of *Parallel-O-Plate*. For detail drawings on this and other structural mirrors, write L·O·F, 17101 Libbey·Owens·Ford Building, Toledo 1, Ohio.

MADE IN U.S.A.
LOF GLASS
THE QUALITY MARK TO LOOK FOR

[illegible]RORS OF PARALLEL-O-PLATE

[illegible] ground for truest reflec[illegible]

[illegible]OWENS·FORD · TOLEDO 1; OHIO

Here are 20 ways to cut the costs of in-the-wall wiring

1. Use less and heavier wire

A three-wire No. 12 circuit takes little if any more labor to install than the usual two-wire No. 14, but it carries nearly three times as much electricity (40 amps vs 15), so you need 60% less circuits and a lot less running feet of wire. Two three-wire No. 12 circuits will carry all the current most 1,480 sq ft houses need outside the kitchen-utility area—with the added advantage of making 220-volt service available wherever needed (for example: to plug in a room cooler).

2. Get your circuits out of the ceiling

Nearly 80% of your living area outlets are down near the floor, so the most expensive place to run your wiring is through the ceiling, where you have to waste 8′ of wire to drop down 8′ to each base plug. The sensible place for your circuits is at baseboard level, making a split loop right around your house. Run a tap off the loop or a small (two-wire No. 12) separate circuit for your ceiling lights and interior base plugs. Use No. 14 wire only for switching.

3. Insist on pressure-lock devices

The old-fashioned screw-type devices are as obsolete as kerosene lamps, but nine electricians out of ten still waste time using them (see *p 173*).

4. Keep your heavy-wire circuits short

Run a three-wire No. 4 feeder to a rear load center if your kitchen-utility area is in the back of the house away from your service entry. (Three-wire No. 6 is enough if you are sure cooking will never be electrical). This will permit short branch circuits. At trade prices, 20′ of three-wire No. 4 costs the electrician less than $8; an 8-circuit sub-panel costs him about $11.50.

Today not one rear kitchen house in 100 takes advantage of this wiring economy.

5. Buy your studs with a 1″ hole 10″ from the bottom

Bigger and better holes can be drilled much faster in the shop, and your electrician can run his wire through a 1″ hole faster and easier than he can run it through a ¼″ hole.

6. Cut and strip your wires with a combination tool

7. Get your interior partition wiring out of the wall

Surface raceways are the cheapest way to provide outlets in nonbearing partitions erected after the perimeter walls are finished (as they should be). Reason: They can be installed and inspected at the same time as the finished wiring for the perimeter ring, whereas branches run through the partition studs would require an extra call from the electrician and an extra inspection.

Baseboard wiring should cost no more if your electrician knows how to install it, uses the right tools to make corners fast, and gives you the benefit of his labor saving to offset higher material cost. Even if your electrician's bid for baseboard wiring is a bit higher, it will cost less if it eliminates inspection delays before you can finish interior partitions.

8. Use only non-metallic sheathed cable

It costs at least 15% less installed than armored cable or old fashioned knob-and-tube and it will save you a lot more than 15% under flexible conduit or rigid conduit. It is just as safe. It is approved by the National Electrical Code and all but the most archaic or racket-ridden local codes.

9. Give your buyers a break with a 150-amp entry

The 150-amp circuit-breaker panel costs your electrician less than $10 more than a 60-amp panel; the wire costs him less than $10 more than the No. 6 wire too often used. These two extras will save your buyer many times their cost the first time he adds a heavy-demand appliance.

10. Use grounded outlets in slab houses

And use them in kitchens, baths, and laundries too. They reduce the chance of shocks in wet areas.

11. Wire your appliances at counter-top level

No. 6 wire costs too much to waste it running up to the ceiling and down again.

For built-in kitchens the splash-board should be designed to do double-duty as a surface raceway big enough to hold several heavy wires. If this is not available, second choice is a separate surface raceway (trade price 41¢/ft). Third choice: run the wire through the studs 40″ above the floor.

12. Put your outlets near the end of a wall space

They are less likely to be blocked behind furniture there.

13. Use aluminum for wires heavier than No. 6

For equal current-carrying capacity it saves up to 50%.

14. Use only duplex or triplex base plugs

They actually cost less than single outlets.

15. Use a split-bus distribution panel

This will take five major-appliance branch circuits and feeders off ahead of the main lighting disconnect. It saves money in three ways:

1. The split-bus costs less than any other device that can handle today's heavier loads (up to five heavy appliance branch circuits and ten single-pole general purpose branch circuits).
2. It ends the need for a single main switch or circuit breaker, saving its entire cost (which may be anywhere from $6 to $60).
3. It is easier to make all the connections in one box.

16. Use outlet boxes slightly oversized

Don't let your electrician waste time cramming three No. 12 wires into a small box. A box 3½″ deep can be wired much faster than a 2½″ box.

17. Don't use "competitive" grade devices

Competitive receptacles cost only 5¢ less to buy (12¢ vs 17¢). They cost more to install (because they come only in the obsolete screw-type model). They won't stand up as long in service, because they don't make as good a contact. And it costs at least $5 for a service call-back to replace one.

18. Put time-delay fuses on motor-appliance circuits

They cost only 5¢ more, and they will take without blowing the twice-as-heavy starting current of the motor.

19. Put your washer and dryer on the same circuit

Run a 3-wire No. 10 circuit (capacity 7,200 watts) to the dryer and tap this circuit for a 2-wire No. 12 through a 15-amp fuse or breaker for the washer. The dryer uses 4,500 watts; the washer only 700.

20. Make your electrician use a ratchet screwdriver

So one motion will do the work of ten. Few electricians do—though even with pressure lock devices they have hundreds of screws to tighten.

How to build better baths for less see p 208



Builder-developer Sidney Colen's Clearview Oaks Co-operative Apartments, St. Petersburg, Florida, will be completely Westinghouse Total Electric Gold Medallion. Over 1,000 individual apartments are planned.

LEADING FLORIDA BUILDER SAYS: WESTINGHOUSE RESIDENTIAL



SIDNEY COLEN (center) looks over house plans for his 1,000 Westinghouse Total Electric Home development in Merna Park and Sheryl Manor. With him are Gene Alexander, General Sales Manager (left) and Ray Funk, General Superintendent (right).



HEATING AND COOLING are provided by the new Westinghouse WhispAir* Heat Pump. Designed for the low-priced market, it's a true heat pump, with central system dependability. Installed with or without ductwork. 18,000 BTU cooling, 17,000 BTU heating.



EXCLUSIVE WESTINGHOUSE Center Drawer Refrigerator is frost-free in all three sections—Refrigerator, Freezer, and Center Drawer. It takes little space because the doors open 90 degrees within cabinet width. Can be built in with trim kit.

*Trade Mark



MARKETING PROGRAM IS A POSITIVE SALES ADVANTAGE



EASY TO INSTALL, the Westinghouse Built-in Oven can be attached on a base cabinet, or built in as desired. The four-unit Range Platform with lift-out Corox® units and convenient control panel drops neatly into the Micarta® Counter Top.

After building over 3,000 homes, Sidney Colen of St. Petersburg, Fla., switched to the Westinghouse Residential Marketing Program. His own words describe what this 3-point program means to him.

- **The convenience of one point of contact.** "Dealing with one source has stepped-up the effectiveness of our purchasing and servicing departments. We are a bigger factor with Westinghouse, and Westinghouse is a bigger factor with us."
- **The selling appeal of one respected brand name.** "The Westinghouse Total Electric Gold Medallion Home emblem is an 'open sesame' to value-shopping home buyers."
- **A co-ordinated merchandising plan tailored to the project and market.** "Your plan has definitely strengthened our position in the highly competitive market here. It has our sales force steamed up and ready to go."

With a Residential Sales Manager responsible for full-line sales in each of 67 principal markets, Westinghouse can give you the kind of support that has made Sidney Colen so enthusiastic. For details, talk to your Westinghouse Major Appliance Distributor. Or, for free booklet, "New Direction in New Profit for Builders," write Westinghouse Electric Corp., Pittsburgh 30, Pennsylvania.

Visit us at Booths 823-836, NAHB's Annual Convention and Exposition, December 3 to 7.

You can be sure . . . if it's **Westinghouse**

Here are 25 more ways to get better baths and better plumbing for less money

1. Buy only the best and best looking fixtures

Many builders who waste hundreds of dollars on inefficient rough plumbing hidden in the wall skimp to save $2 by putting a cheap undersized fixture out where it will show. Fixtures are the least expensive part of a bath; even the best fixtures add up to only a third of its total cost.

So don't buy a lavatory too small to wash in (19″ x 21″ costs your plumber only $5 more than 17″ x 17″). Insist on a long-lipped elongated toilet bowl (it costs your plumber only $10 more, would cost much less if more builders bought them).

2. Line up your fixtures along one wall

Only an amateur or a millionaire would do anything else.

3. Put your bathrooms back to back

This should cut the rough plumbing costs for your second bath by more than 50%. It will give you shorter runs and let your plumber use cross-fittings to handle two fixtures from a single riser. (APSCO charges only 20% more for a double plumbing wall for two baths than for a single plumbing wall for a single bath.)

Back-to-back baths are easier to plan now that FHA permits inside baths. One inside bath has been approved since 1954; two inside baths are approved by the new FHA standards.

4. Plan your houses for compact plumbing

With the planning freedom you get from truss framing there is no good reason why your architect cannot develop a good plan that will keep all your plumbing close together for two baths, sink, washer-dryer, and water heater.

5. Keep your plumbing above the floor

Your plumber can work a lot better and faster there than he can work flat on his back in crawl space or on a ladder in the basement; he can do all his roughing-in the same day for a slab or crawl space house; and he can save the extra cost of burying an extra-expensive soil line under a slab. Builder Bob Schmitt figures his net saving on above-the-floor plumbing at $300 per house, even after paying $50 extra for two wall-hung toilets.

For above-the-floor plumbing you need an end-drain tub and a rear-discharge toilet.

6. Don't make your plumber do carpenter's work

Don't make him waste time cutting and notching studs to fit in his rough plumbing. Let him finish his rough plumbing first; then close the rough plumbing in between a double wall (the extra framing lumber will cost you only $3, and your carpenters can nail it together faster than your plumber can cut one pipe through a stud.) Never make the wet wall a bearing wall.

7. Let your plumber schedule for just two trips

One day for the rough plumbing before the partitions go in, one day for the fixtures and finished plumbing after the partitions are erected.

County Photo Service



8. Buy your wet wall plumbing prefabricated

Your plumber can buy it factory-assembled to meet your local code requirements and all framed into the wall for less money than it would cost him to assemble it himself. He can buy it cheaper from APSCO, from LFI, and several other suppliers. Says Pensacola Builder John Collins, "Our plumber is saving us $75 per house by buying our plumbing preassembled." If your plumber won't do that. . .

9. Have your plumber shop build your wet wall

He can do it a lot cheaper there than in the field.

10. Protect your tubs during construction

On some tracts two out of every hundred tubs have to be taken out and replaced before the house is finished because of some careless accident like dropping a hammer. This often costs $150 per tub. You can spray on a plastic coating for about $3 a tub or buy a cardboard cover, made to fit the tub, for about $1. "If you can't use moth-balling," adds Dave Slipher, "the second best idea is to fill the tub with water as soon as it is connected."

Be sure your plumber plugs all drains when they are installed, so construction debris can't block the system.

11. Use flexible tubing for your supply lines

12. Don't use oversized or overweight pipes

Use 3″ drainage pipe; it is more than adequate and passes all up-to-date codes. It costs only half as much to buy as 4″ and is much easier to install.

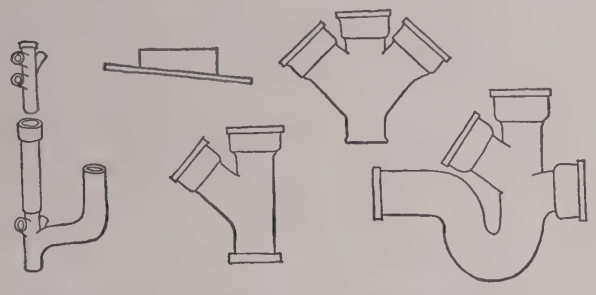
Use service weight cast-iron pipe. Buy above ground copper tubing only in the DWV weight; it is just as satisfactory as the M that went out 15 years ago.

But don't skimp on undersized supply lines. Run at least a 1″ line to the street. In plastic it will probably cost less than the smaller service you use. Use nothing smaller than 1″ between your meter and your manifold. The sizes most builders use are too small for today's much heavier water use, so they are noisy and wear out at their bends.

13. Take advantage of new alternate materials

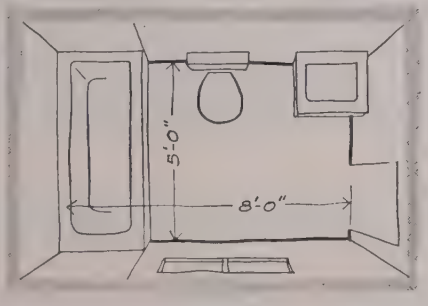
Plastic tubing is just as good for the service line from the main to the house. It can be unreeled in the trench like a hose, costs very much less per foot.

Plastic and impregnated fibres are quite okay and much cheaper for connections to sewer lines and septic tanks (except under the slab). They are also quite okay and much cheaper for above-the-water-line venting (from 30″ above the floor to the roof). And they are the cheapest and best foundation and downspout drainage.



14. Make your plumber use special fittings

Bill Levitt and Andy Place both figure their simple precast plumbing trees save them $50 a bath. It will pay you to spend a long evening studying all the special fittings listed in such catalogs as the Alabama Pipe Co. You will find many single fittings that could take the place of three or four in your plumbing wall, and your plumber can buy them for a lot less money than it would cost him to make them.



15. Don't try to beat the 5′x8′ bath for economy

Use standard 32″ oc spacing for the fixtures; it lets you buy standardized rough plumbing. It is also an outstanding example of the multi-use of space: the same 2½′ x 5½′ of floor does triple duty as standing room for three fixtures.

16. Locate your toilet between tub and lavatory

This is about $30 cheaper, for it is the only way to branch without any back venting or wet venting.

17. Don't waste money compartmenting your baths

What homebuyers want and need is more fixtures, and fixtures are the cheapest part of the bath.

When you compartment a bath you run up your partition costs and you often double your rough plumbing costs (because you lose most of your back-to-back plumbing savings), but you end up with no more fixtures to show for your money.

18. Set your tub wall-to-wall across the bathroom

And buy the tub enclosure ceiling high in one piece.

19. Use frost-proof hose bibs

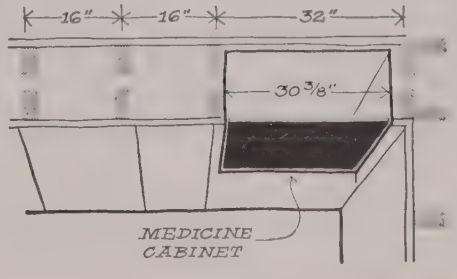
Instead of running a separate water line with a stop and waste valve to each hose bib, run a short line from the nearest fixture supply to a frost-proof hose bib. You will need less pipe and less valves.

20. Vent your whole plumbing system on one stack

If you can group all your fixtures within an 8′ radius, a single stack will meet the requirements of the National Plumbing Code and all other up-to-date codes. Additional stacks will cost at least $25 each (but don't accept a bad plan just to save this $25).

21. Don't waste good money on a house trap

If your plumbing code requires a "horizontal intercepting trap," get after your local government to change this archaic requirement at once. Says Glen Shields, sanitary engineer for the City of Detroit: "They are stinkers. When a water closet is flushed they emit a blast of sewer air that would make a sewer rat homesick. Research by the Bureau of Standards and the University of Iowa showed that a house trap develops the same kind of obstruction to flow as if the discharge end of the building sewer were submerged. Its omission permits better flow, fewer stoppages, and higher loading."



22. Buy your recessed medicine cabinets 30⅜″ wide

Then they will fit between the studs without blocking.

23. Run the window wall to wall

A wall-to-wall window across the 5′ end of a bath (above) should cost less than a narrower window with a fussy return on either side. Builder Joe Eichler has proven beyond doubt that eliminating the return makes a small bath seem much bigger.

24. Or perhaps you can just omit the window

Many of the best architects often do—like Marcel Breuer or Frank Lloyd Wright. You can get better ventilation rain or shine for less money with a small exhaust fan blowing out under the eaves.

25. Put your water heater close to the kitchen

This will save piping and it will help your buyer save fuel and water getting the water to run hot.

How to build better storage for less, see p 212



PHOTO: PETER STACKPOLE

House & Home said it in Februar

"Desalting the ocean for drinking water, washing water, factory water and even irrigation water is next in the cards.

"Desalting the ocean will remake the map of America—the homebuilding map, the industrial map, and the farming map.

"This breakthrough comes none too soon.

"New housing and new industry are being straightjacketed by water shortages all over the country...."

So said House & Home in February in an 8-page report on the coming breakthrough in getting fresh water cheaply from salt water.

It is the most up-to-the-minute and most authoritative report that any magazine has yet published on desalting sea water... and it is just one more example of how and why House & Home spends more than a dollar a word to give its readers important and timely information on any subject (no matter how big or how complex) that concerns the further expansion of America's biggest industry.



..the President said it in April, and again in June

Two months after House & Home's big story, the President himself underscored the importance and urgency of the program. Said he: "If we could ever get fresh water from salt water at a competitively cheap rate... it would really dwarf any other scientific accomplishment in the long range interest of humanity And I am hopeful that we will intensify our efforts in that area."

In June, the President added: "I can think of no cause and no work which is more important... one of the great scientific breakthroughs of history."

Five days later, he asked Congress for more money to expand and accelerate Federal efforts to achieve the goal. In a letter to Congress, he said: "I know of no federal activity that offers greater promise of making a major contribution to the ultimate economic well-being of all mankind than this program."

Treating important subjects importantly is why House & Home has won far more top awards for editorial achievement and outstanding journalism than any other business magazine.

Treating important subjects importantly is why House & Home attracts the paid subscriptions of over 130,000 important housing professionals, the professionals whose help you need most to sell more of your products into new houses and into existing houses—to get your products designed in, built in, appraised in, financed in, delivered in, sold in. These subscribers can be and should be your indispensable second sales force to help you sell your products to homebuyers and to homeowners, your ultimate customers.

So ask yourself these three important questions:

1) Will these professionals give you all the help you need to make more sales?
2) Do they know enough about your products' quality and sales appeal to want to sell them for you?
3) Are you doing all you should be doing to get your selling story across to these men whose help is so important to you?

House & Home—and only House & Home—is read by almost everybody who could help you make more sales, so House & Home is mighty important to your selling.

House & Home

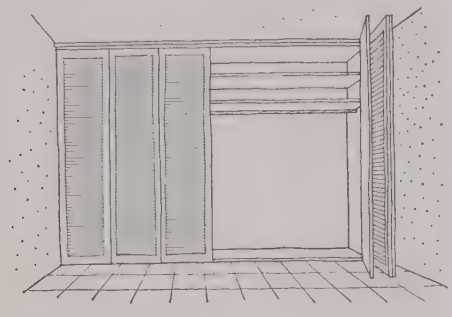
the management magazine of housing

published by TIME INC.

Here are 11 low cost ways to add enough storage

1. Stop wasting the attic

Smart builders like Andy Place, Bob Schmitt, and Bob Gerholz, all fit 24″ wide disappearing stairs between their trusses to make up to 400 sq ft of rough-floored attic space easy to reach and use. This attic storage is better than basement storage because it's dryer. It is better than garage storage because it's safer (and hides the mess). Total added cost for making it usable is less than $100 vs perhaps $3,000 for a basement. (Bob Schmitt gets 400 sq ft for $76—spends $26 for a disappearing stair installed, $40 for ⅜″ plywood flooring, $10 for labor to lay it.) Sometimes Schmitt puts in not one but two disappearing stairs, one in the garage, one in the bedroom hall, to make attic access even easier. But he warns: "Don't make your stairs more than 24″ wide. The narrow hole in the attic floor will keep your buyers from carrying anything up to the attic too heavy for your truss to carry." (Trusses should be designed for 25 lb sq ft on their middle chord.)



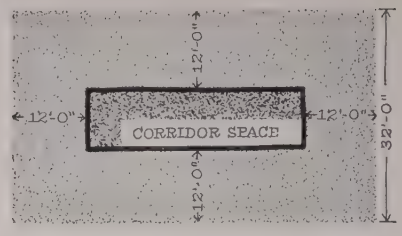
2. Stop wasting the top of your closets

It costs less to put ceiling-high doors on your closets than to frame in conventional 6′8″ doors that make the top 20″ of the closet almost unusable. Best and cheapest way to build a good closet is just to close off one whole end of the room with ceiling-high, wall-to-wall doors. That gives you five sides of your closet for nothing. For the sixth side you can use 8′ folding doors, hinged doors, or sliding doors, fastening their hardware directly to floor and ceiling. The top space these 8′ doors make usable is no good for active storage, but it is the handiest place to put suitcases or to store summer things in winter and winter things in summer.



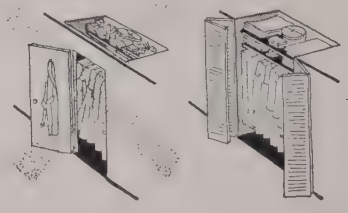
3. Stop wasting the bottom of your closets

Most families have few items that need more than 4′ of vertical hanging space: men's coats needs only 36″; men's trousers need only 48″; children's clothes need less than 36″; women's daytime dresses need only 48″; even long dresses need only 72″ to hang straight or about half of that to hang folded once. But most builders go right on putting every clothes closet shelf in the house 66″ above the floor with the clothes rod right under it, leaving the bottom 24″ to 30″ of the closet unused and almost unusable except for shoes on the floor. To stop this waste, either build in drawers at the bottom of some closets or drop most of your clothes poles 18″ down and put some drawers and shelves at the maximum-convenience level above them.



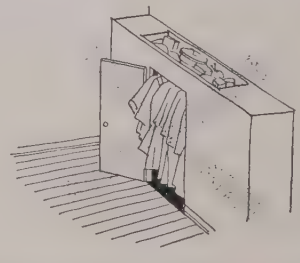
4. Use cheap inside space for more bigger closets

Making a 40′ house 4′ deeper adds 64 sq ft of space more than 12′ from a window. That's enough space to double the closet area most builders offer—and Builder Bob Schmitt figures this added area costs him only $3.37/sq ft finished; ie, less than finished space in the basement. "Use some of this space for a "Fibber McGee" closet 4′ square" advises Architect John Highland, past chairman of the AIA Home Building Committee.



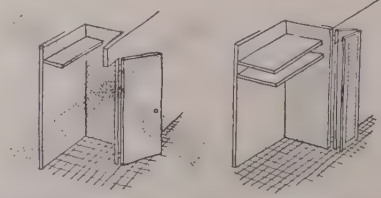
5. Stop wasting the depth of your closets

Make all the shelves full depth; ceiling-high doors will make their whole area accessible. Most builders build linen closets deeper than the 14″ FHA requires, but still provide shelves only 14″ deep. For the cost of a single board they could almost double the linen storage they provide. FHA's new MPS ask for at least 9 sq ft of linen storage for 1- and 2-bedroom houses, and 12 sq ft for 3- and 4-bedroom houses.



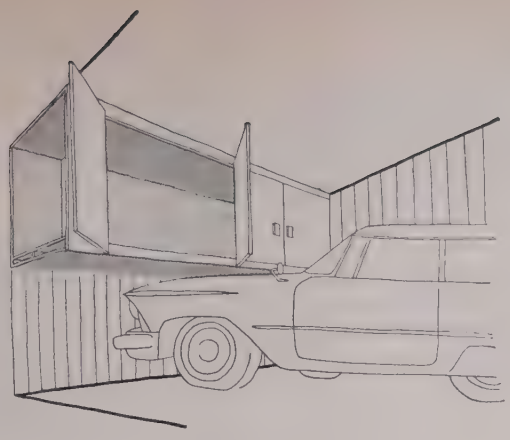
6. Stop building clothes closets too shallow

A 20″ deep closet won't even hold a man's coat without crushing the sleeves. Make your closets at least 24″ deep. And if your buyers are going to put hooks along the back, closets should be even deeper. Says Michigan Builder Bob Gerholz: "Planned, organized storage is a must for maximum stability. We give it top priority." And Phoenix Builder John Long adds: "There is an increasing demand for storage. We are providing more than ever."



7. Stop wasting the ends of your closets

Run your closet doors end to end. A 30″ wide door on a 48″ wide closet leaves 9″ at each end that will be almost impossible to use. Says Portland Builder Frank Evans: "The more storage the better—not just more space, but more usability." And Dallas Architect Tom Scott Dean adds: "Esthetics notwithstanding, storage sells houses." And Builder Elwood J Turner Jr, of Media, Pa, finds: "Better storage is an advantage in all price brackets."





8. Stop wasting the top half of your outside storage

Most outside storage items stand less than 3′ high. So if you build a big outside storage area like Bill Levitt's, double deck half of it and provide twice as much usable area for storing lawn furniture in winter. *House Beautiful* Editor Elizabeth Gordon uses the garage area over the hood of her car to store summer furniture, screens, etc.

9. Stop wasting the space above your clothes dryer

This is the best possible place for linen storage if your dryer is located near the bedrooms (as so many architects recommend). If the dryer backs up against a bathroom wall (as it often does to cut plumbing costs), put a back door to the shelves in the bathroom wall. (This convenience was one of the commonest requests at Women's Housing Congress.)

10. Stop wasting the space above your cabinets

Under a flat ceiling, run the cabinet doors 44″ high to make a closed-in shelf of the cabinet top. This will cost you very little more than furring down the ceiling as so many builders do. The extra shelf space created by these doors will provide dust-free storage for wedding presents and many other items used only once or twice a year.

11. Use pegboard to add storage to your walls

On at least a portion of the inside walls of your garage and storage room, it can be decorative, costs only a little more than drywall, and turns walls into highly usable storage areas. "Storage for clothes and personal items has increased greatly," says Architect Rufus Nims. "It is not uncommon for storage to take 30% of the total space—sometimes even more."

Here are the eight best ways to cut cooling costs

1. Put at least 3″ of bat insulation (or its reflective equivalent) in walls and 6″ in the ceiling

In cold-winter climates this adequate insulation will soon pay for itself in cheaper heating alone; it will save twice as much when summer cooling is added. The homebuyer will save on fuel; the builder will save on a smaller furnace and a smaller conditioner.

2. Keep your attic cool

Most attics are so badly ventilated that they heat up to 140F or more. Even with the best insulation some of that heat is bound to get through the ceiling and put a needless load on the cooling system. The 4-sq-ft vents most builders put in their gable ends are nowhere near big enough. (For the best way to vent an attic see *page 150.*)

3. Use a light colored roof

Nearly 90% of the exterior heat load on a house comes from the hot sun shining down on its unshaded roof. A white roof will reflect 68% of that heat back; a dark roof will reflect back only 5% and give you a mighty hot attic.

4. Keep the sun off your glass areas

Even a four-ton compressor can't keep a small house cool if you let the sun shine long through a big window; 150 times as much sun heat comes through a square foot of glass as comes through a square foot of insulated wall at maximum conditions.

So put at least a 2′ overhang, and preferably more, over all east, and west, and south windows and provide special shading (with trees, trellises, fences, or otherwise) for all big windows facing west. Says Builder Dave Slipher: "Good-sized trees are the best and cheapest shading device. They cost least to buy; they cost nothing to maintain; and year by year their value increases as they grow." Inside Venetian blinds are not the answer; at best they will re-radiate only 35% of the heat. Once the heat comes through the glass the damage is done so Kool-shade screens or outside Venetian blinds are much better.

5. Blow your kitchen heat outdoors

A two-ton compressor can't cool a house as fast as a kitchen stove will heat it up. There is only one thing to do with kitchen heat. Turn on an exhaust fan to blow it out—and vent your oven to get rid of the oven heat too.

6. Double glaze the windows

This costs money, but it will cut winter heating bills enough to pay for itself quite quickly in cold climates; it will pay for itself faster by cutting cooling costs in hot weather, though not enough to pay for itself quickly where heat loss is no problem.

7. Put an automatic closer on all the outside doors

Nobody can afford to cool all outdoors.

8. Vent the steam from shower, clothes washer

Electric compressors and gas absorption units do a fairly efficient job taking heat out of the air, but they are much less efficient taking moisture out. A water-soaked canvas shower curtain put such a load on the cooling unit of one Texas house that a two-ton compressor could not keep the rooms comfortable. A cooling unit must work harder to get rid of a pint of water in the air than it works to cool 6,000 cu ft of dry air 10°. It costs a lot less to blow steam out of the house with an exhaust fan than it costs to get rid of it with air conditioning.

How to build better kitchens for less, see p 215

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HH–10/61

Here are 15 ways to make the kitchen better

1. Put the kitchen handy to the garage. Don't make the housewife carry the food clear across the house everytime she comes home from market.

2. Put the kitchen handy to the front door. Don't make her drop her work and walk half the length of the house to answer the bell.

3. Put the kitchen where the housewife can keep an eye on the children at play. "It's the most important place for the kitchen," says Glenn Beyer, director of Cornell Kitchen Study.

4. Don't make the kitchen a prison. Open it up so she can see and talk to her husband and her guests while she works. Or make it big enough—a real kitchen-family room—so she can have company right in the kitchen itself.

5. Don't make the kitchen work space smaller than 8′x12′. You won't have enough counter space and you won't even have a place for the housewife to sit down.

6. Don't make the work space in your kitchen much bigger than 8′x12′. The added floor space will just put counters and appliances farther apart and so make more steps for the housewife.

7. Install an acoustic ceiling. The kitchen is the noisiest room in the house. You can't get rid of china dishes or metal pans, so keep them as quiet as you can with washable acoustic tile.

8. Put the range hood and exhaust fan 24″ above the range and be sure to vent the oven right under the hood. Or use self-venting ranges. The kitchen is the hottest room in the house—and the smelliest. Make sure your exhaust fan is powerful enought to do its job. Too many architects and builders get fooled with fans.

9. In an open kitchen, provide some sort of shutters or sliding panels between the work area and the family area so the kitchen can be closed off at times to hide the mess.

10. Plan your kitchen around these five work centers: refrigerator, sink, mix, range, and serve—and allow this much wall space for each: sink, 8′; mix, range, and serve, each 4′; refrigerator-oven, 6′. Some of the counter top space for some of these centers can do double duty, so the total wall space needed can be condensed from 26′ to 20′ if necessary. All countertops should be 36″ high except the mix center, which should be 32″.

11. Provide the same length of top and bottom storage at each center for the things used there. For example, your mix center is 4′ long, so make the base and wall cabinets each 4′ long too.

12. Place the refrigerator, sink, and range in a triangle, to save steps. There are three good kitchen plans. Which one you use depends on the room you're working with.

There's the U-shaped kitchen. This keeps the triangle compact and also keeps through traffic out of the work area.

There's the corridor-kitchen, with two facing rows of cabinets and appliances. The triangle is still compact, but through traffic may be a nuisance.

And there's the L-shaped kitchen. Cross traffic is not a problem, but the triangle is bigger and takes more steps.

Worst plan you can use is the in-line kitchen. It strings all the appliances and cabinets out in one long row, wastes space and adds steps.

13. Put a good light under the wall cabinets to shine on the work surfaces, which need at least 40 ft-candles. This can be the least expensive light in the house, for all the fixture you need is strip lighting with a baffle along the cabinet edge to keep the light out of the housewife's eyes.

14. Provide intermediate shelves. Too many storage cabinets have only three shelves, set 12″ from shelf to shelf. That wastes most of the height, for you need only 6″ to 8″ to stack a dozen plates. Intermediate shelving will give you more and more convenient shelf space.

15. Put facing counters and appliances at least 4′ apart. This allows just about minimum clearance when the oven door is down or the dishwasher is pulled out. And you need at least 4′ clearance for two people in the kitchen at the same time.

And here are nine ways to cut the cost of a better kitchen

1. Dimension the space for your built-ins to the even 2′ module and the even 1′ half-module jointly recommended by NAHB and NEMA. Then your built-ins will run wall-to-wall with minimum time and money wasted to make them fit. Says Savannah Builder Clayton Powell, "This is a big advantage when you buy manufactured units."

2. Run your storage cabinets ceiling-high. "It costs less to put tall doors on your cabinets, so the top can do double duty as enclosed storage for little-used items, than it costs to fur down the ceiling," says Houston Builder Mickey Norman. Says Glenn Beyer: "Top storage for seldom used items is fine so long as you provide enough convenience-level storage for items in common use." Asks Architect Morgan Yost: "Where else can you put those awful old wedding presents?"

3. Buy your kitchen windows 44″ high, to line up at the top with the 84″ height of other openings, to fit at the bottom right over the counter splashback 40″ above the floor.

4. Back the sink up to the baths, to cut your plumbing costs by using the same wet wall. Don't knock yourself out to put the sink under the window. Women used to want it there so they could look out while they washed the dishes, but Glenn Beyer says, "That is not so important now that dishes are washed by machine: The dishwasher doesn't care about the view, so it is often better as well as cheaper to put the sink on the side wall and put the eating space or the mix center under the window." *Caution:* Don't back up the sink to the baths if you have to use a bad plan to do it, or you'll lose your dollar savings in wasted space, wasted materials, and lost buyer goodwill.

5. Set the sink trap 19″ above the floor. That will allow space to install a garbage disposer, now or later.

6. Don't waste good resilient flooring under your base cabinets. Spend the money thus saved for a rubber cushion under vinyl asbestos flooring; the women who buy your houses will bless you every evening for the ease and rest the cushion will give their feet. And nothing less than vinyl asbestos will stand up under kitchen wear (heaviest in the house) plus kitchen grease and water.

7. "Don't waste money finishing the wall and ceiling behind your ceiling-high wall cabinets or your base cabinets," advises Sacramento Builder James Lewis. When cabinets fit wall to wall and floor to ceiling, all you need finish is the 16″ between countertop and wall cabinets.

8. Locate your range and oven on the outside wall. That will cut the installation cost of an exhaust fan at least 50%.

9. Line your appliances at countertop level. It will make a savings in your wiring.

How to use less and better nails, see p 216

Here is a nailing table to help you to engineer to use less and better nails

This table, prepared by Architect Leonard Haeger, shows engineered nailing schedules accepted by most FHA offices:

framing schedule	current FHA—common nails					engineered—threaded nails			
	number or spacing	size, D.	length, in.	diam., in.	no. per lb.	number or spacing	length, in.	diam., in.	no. per lb.
joists to sill or girder, toe nail	3	16	3½	.162	49	3	3¼	.135	73
1 x 6 subfloor to joists, face nail	2	8	2½	.135	106	2	2⅛	.115	182
1 x 8 subfloor to joists, face nail	3	8	2½	.135	106	2	2⅛	.115	182
sole plate to joists or header joist	16″ oc	16	3½	.162	49	16″ oc	3¼	.135	73
stud to sole plate, toe nail*	3	16	3½	.162	49	3	2½	.120	117
stud to sole plate, toe nail*	3	10	3	.148	69	3	2½	.120	117
stud to sole plate, end nail	2	16	3½	.162	49	2	3¼	.135	73
top plate to studs, end nail	2	16	3½	.162	49	2	3¼	.135	73
doubled studs*	24″ oc	16	3½	.162	49	16″ oc	2½	.120	117
doubled studs*	30″ oc	16	3½	.162	49	16″ oc	2½	.120	117
top plates, spike together	24″ oc	16	3½	.162	49	24″ oc	3¼	.135	73
ceiling joists to plate, toe nail*	2	16	3½	.162	49	2	3¼	.135	73
rafter to plate*	3	16	3½	.162	49	3	3¼	.135	73
1″ x 8″ sheathing	2	8	2½	.135	106	2	2	.120	147
plywood:									
subfloor to joists, edges	6″ oc	8	2½	.135	106	6″ oc	2⅛	.115	182
subfloor to joists, intermediate	10″ oc	8	2½	.135	106	12″ oc	2⅛	.115	182
roof sheathing, to rafters, edges	6″ oc	6	2	.120	181	6″ oc	1¾	.120	165
roof sheathing, to rafters, intermediate	12″ oc	6	2	.120	181	12″ oc	1¾	.120	165
horizontal bevel siding		8	2½	.135	106		2⅛	.115	182

* FHA requirements vary



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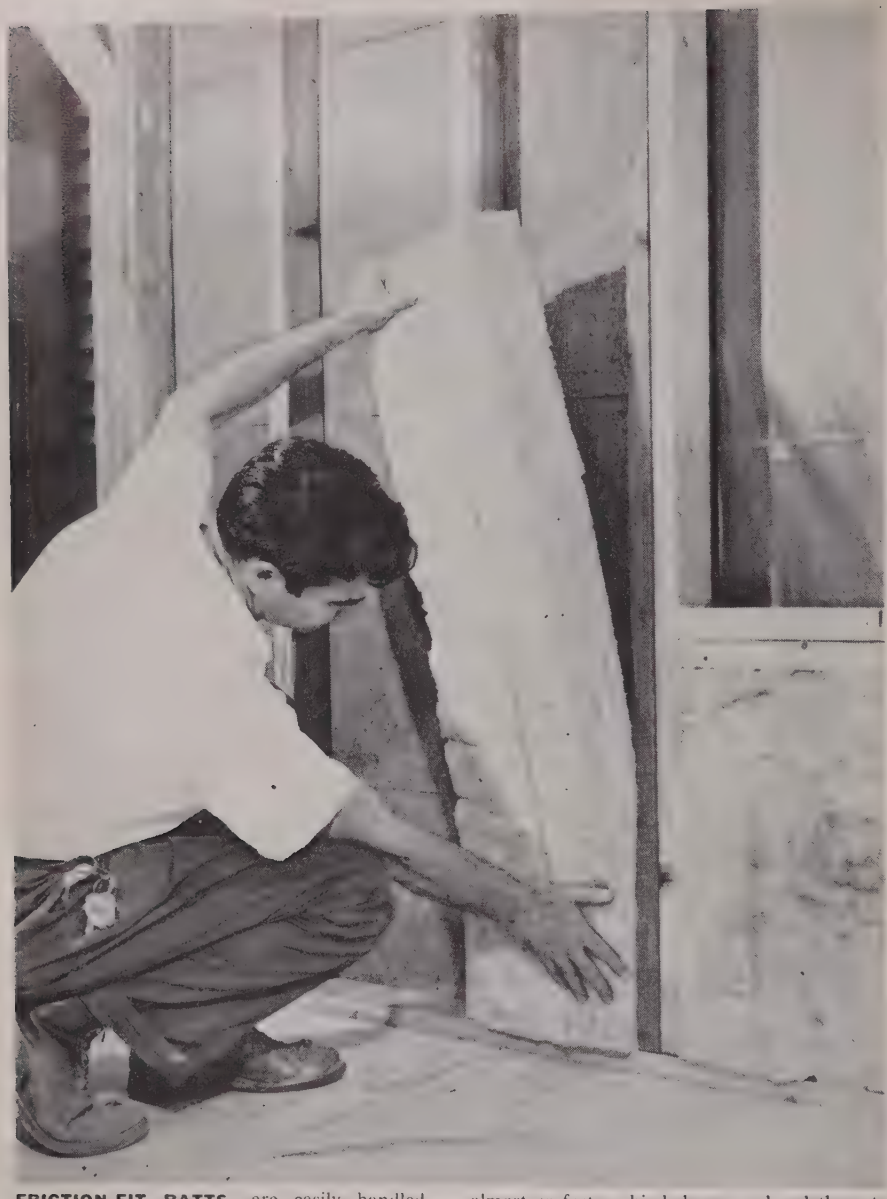
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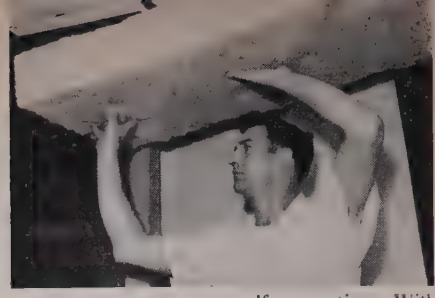
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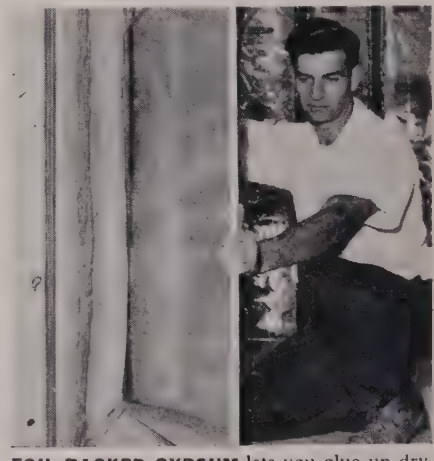
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POLYETHYLENE SHEET, tacked to studs, is used as vapor barrier with nail-on drywall.



FOIL-BACKED GYPSUM lets you glue up drywall with an integral vapor barrier.

New products to insulate against sound and heat



FLOOR INSULATION over unheated spaces is rolled over joists, held by ring-nailed floors. It also cuts between-floor impact noise. (No. 2)



PERIMETER BOARD breaks easily at score line or can be folded against foundation. Fiberglass costs less than plastic-foam boards. (No. 3)



ALL-IN-ONE CEILING slips into inconspicuous T-form, supports itself over 4′ span. Combination finished-acoustical-insulating panels are lightweight and easy to handle. (No. 4)



LIGHT-AND-SOUND CEILING comes in 2′ module, any pattern. Panels go in fast. (No. 5)



BIG CEILING PANEL is easily handled by one man. Two-mil vinyl face resists soiling.

are made possible by a newly developed fiber

New fiber is Owens-Corning's AF (all fiber) glass, a pellet- and slub-free mat that's light, resilient, non-wicking.

With it you can install batts simply by pushing them between the studs. Batts won't settle, won't fall out, and fully fill the stud space. New friction-fit batts cost the same as kraft-backed batts, but go in place up to 50% faster.

Used as perimeter insulation, boards of the new fiber never become waterlogged. They are unaffected by local drainage or rises in the water table. They are also tough and easy to work —they fold easily at score lines but can be cut with a dull knife. As backerboard for metal siding, non-wicking fiberglass lets condensation escape through the siding's weep holes.

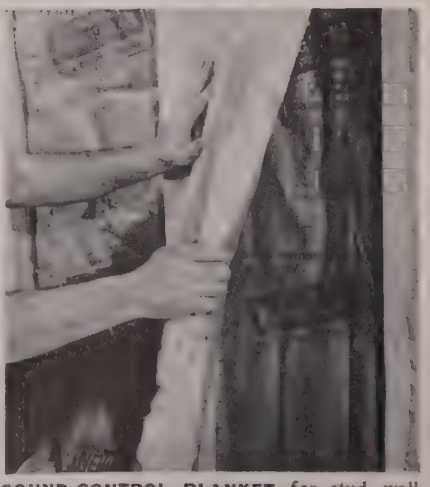
The new fiber also opens new lines of development for acoustical ceilings.

One new ceiling combines finish, acoustical board, and thermal batt in one 2″ thick sheet, 4′ wide and any practical length, weighing only 5 oz/sq ft. To install, the big sheets are slipped into T-shaped hangers. Cost competes with other acoustical systems so the 2″ of thermal insulation is a bonus.

A second ceiling system combines acoustical and luminous panels in a T support. Acoustic panels are ½″ vinyl-faced fiberglass board. The light panels are corrugated polyester or flat acrylic. Builder cost: 45¢ per sq ft for acoustic, 75¢ for luminous panels.

Owens-Corning, Toledo.

For details, check number in captions on coupon, p 239.



SOUND-CONTROL BLANKET for stud wall also installs by friction-fit method. (No. 6)

New products continued on p 222



Mr. Builder...
Houses sell FASTER with HARTCO Solid Hardwood Parquet!

Yes, builders all over are discovering that houses featuring Hartco wood FLOR-TILE *do* sell faster. They are discovering, too, that this prefinished solid Appalachian Hardwood parquet costs no more than substitutes. Turn this definite selling advantage into profit for yourself. Check these important features:

- ✳ SOLID HARDWOOD TILE . . . 5/16″ x 6″ x 6″
- ✳ PREFINISHED . . . no on-the-job finishing
- ✳ EASY ADHESIVE INSTALLATION . . . no forcing
- ✳ STABILITY . . . guaranteed to stay down
- ✳ TWO GRADES, FOUR WOODS . . . Oak, Ash, Walnut, Maple

SEND FOR SAMPLES AND LITERATURE!

Hartco WOOD FLOR-TILE with DURA-TEST Finish

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ADDRESS_____

CITY_____

FIRM_____

TIBBALS FLOORING COMPANY
Dept. HH-2 Oneida, Tennessee

Figure on *FAST* DUCT INSTALLATION with



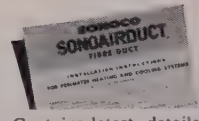
Bidding a slab perimeter heating, cooling, or combination system? You can figure on saving time and labor when you install SONOAIRDUCT Fibre Duct!

Lightweight SONOAIRDUCT handles easily, levels and joins quickly. Long lengths mean fewer joints. And, it can be cut to size or mitered with a handsaw—right at the job.

Easy to install, sure. But that's not the *only* reason why SONOAIRDUCT is America's best selling Fibre Duct. It's low in cost. It's rugged — won't chip, crack or break when dropped, so every piece is usable. And SONOAIRDUCT, performance-proved in thousands of installations, meets or exceeds all F. H. A. criteria and test requirements for this type product.

Bid lower — profitably — with SONOAIRDUCT Fibre Duct. Available in 23 sizes, 2″ to 36″ I.D., standard 18′ lengths or as required.

FREE
INSTALLATION MANUAL



Contains latest, detailed, step-by-step installation data for SONOAIRDUCT Fibre Duct. For copy, send us name, address on company letterhead.

See our catalog in Sweet's
For complete information and prices, write

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Mr. Builder –

If you are looking for locks that are easy to install, will function properly for years to come, and will add to the value of your homes—then Weiser is your answer.

Weiser Locks on your next job will prove it.

WEISER LOCKS

WEISER COMPANY • SOUTH GATE, CALIFORNIA

start on p 218



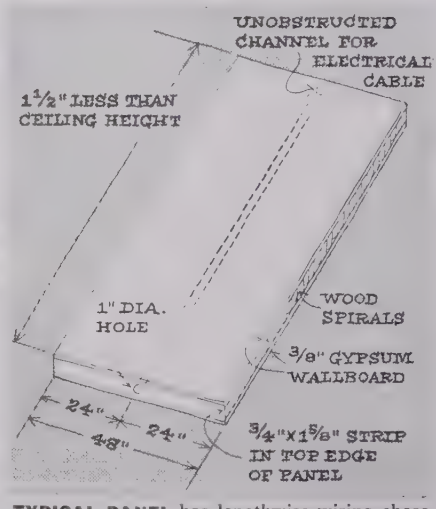
SPIRAL CORE PANEL is placed by two men who can partition a typical house in a few hours. Panel rests over a 2x2 centered on a ¾"x2⅜" sill. Built-in header is also 2x2.



CORNER BEAD on ceiling acts as hanger. Panel is jacked in place, nailed head and foot.

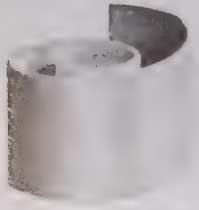


ANY 2X BLOCK can act as spline between panels. Door buck is 2x2 set between faces.



TYPICAL PANEL has lengthwise wiring chase. Wires are fished from it to any spot in face.

Here's a lightweight partition for 19¢ a sq ft



WOOD CURL is precision-cut 1⅝" hardwood shaving. About 1,000 are used per 4'x8' panel.

That's the price quoted for carload lots FOB the New Orleans plant.

The panel is a 2⅜"-thick sandwich of hardwood curls glued between ⅜" gypsumboard faces, weighs 3.6 lb a sq ft. It is easily worked, easily adapted to your carpentry methods. (In fact, the special fittings shown in company's brochure have already been superseded by dimension lumber.) The faces can be scored and cut like any gypsumboard; the curl core can be ripped out with hammer claws; wire or conduit can be fished through the core in any direction.

The panel has good strength characteristics—the curls are very strong along the axis. The panel shows a residual deflection of only 1/64" in the ASTM impact test. The wall sounds solid when thumped. With easily inserted backing blocks it will support wall-hung cabinets. Spiral Core is not, however, intended for bearing walls; it is strictly a partition system.

National Gypsum, Buffalo.

For details, check No. 7 on coupon, p 239

New products continued on p 225

NEW

FROM

bryant



OIL FURNACES

DESIGNED TO HANDLE AIR CONDITIONING

NEW LOW PRICES

Call your local Bryant dealer, distributor or factory branch for complete information on these two new oil furnaces. Model 105-353, 105,000 Btu; Model 140-353, 140,000 Btu.

STYLED BY RAYMOND LOEWY. New, clean-lined styling and color combination to match your modern interiors . . . and that says "quality" at first glance.

COMPACT! Real space saving design in an oil furnace. 105,000 Btu unit only 22¼" wide, 26" deep, 51" high.





new home selling feature...

READY FOR DELIVERY

bryant

HOME COMFORT CORE

HEATS • COOLS • FILTERS • DEHUMIDIFIES • CIRCULATES



You can get these two new Bryant oil-fired furnaces from local stocks right now. Before you commit yourself on future houses do this — call your local Bryant dealer, distributor or factory branch, and arrange to take a look at the new furnaces, compare them feature-for-feature and dollar-for-dollar with what you are now using.

BRYANT "PLUS VALUES" help you give "more house for the money"... *new* quietness... big, *new* blower switches from summer to winter speeds at flick of the finger... *new* Uni-Weld casing won't rattle... *new* basic design ends hold-ups in delivering the *right* furnace to your job.

SERVICE GEARED TO YOUR NEEDS

Your Bryant dealer is ready to work with you all the way from system layout to owner-follow-up. Factory-trained and solidly backed up by his distributor or factory branch, he's set up to save you time, money and trouble.

ASK YOUR DEALER ABOUT **BRYANT'S**

NEW BUILDER PROPOSITION

a new merchandising concept to help you sell homes.

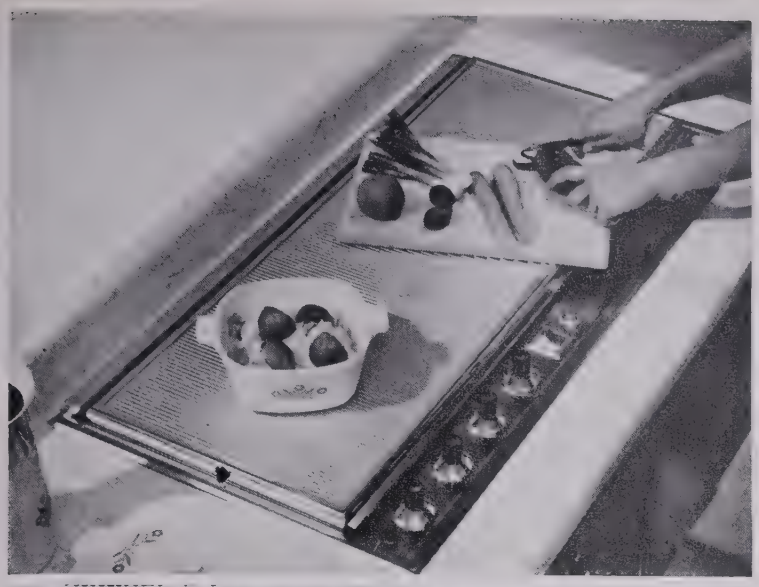
Now Bryant's Home Comfort Core Merchandising Program turns an unexploited feature of your homes into a new selling advantage that gives you the "jump on competition"— *and it doesn't cost you a nickel more!*

We make the furnace and air conditioner really "sell" for you instead of letting them "just stand there".

Why not call your Bryant dealer, distributor or factory branch. Get the full story. You have nothing to lose, everything to gain.

BRYANT MANUFACTURING COMPANY • Indianapolis, Indiana

start on page 218



CLOSED TOP adds work surface.



OPEN TOP vents cooking fumes.

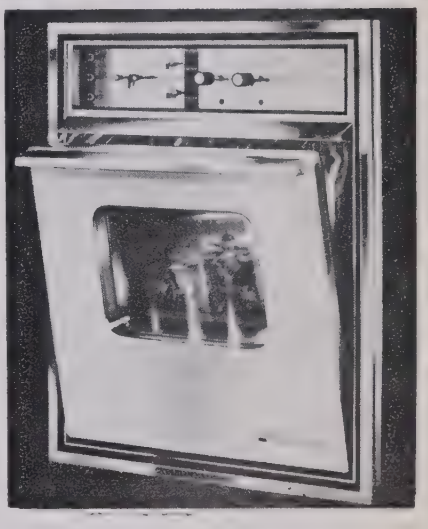


BLOWER UNIT can vent down or back, is exceptionally quiet.

Jenn-Air, leading maker of commercial kitchen ventilators, has a brand new idea—a self-ventilating range top. Four burners in line are covered by a stainless and aluminum top that acts as backsplash and vent hood. A quiet blower under the counter draws smoke, odor, and heat out through a slot in the top, exhausts it through ducts to the outdoors. Matching ovens—one single, one double—also have built-in blowers. Prices are competitive: $318 for custom top and single oven, $421 for thermostat controlled top and double oven, wholesale.

Jenn-Air Products, Indianapolis.

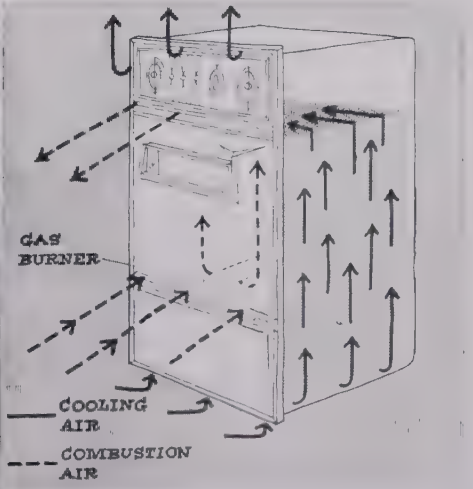
For details, check No. 8 on coupon, p 239



SINGLE OVEN has all controls, double oven adds rotisserie.

New kitchen units feature built-in ventilation





Caloric has a new method to bring air into its gas ranges so sealed doors and cabinets are no longer necessary. All combustion air is drawn in around the broiler door, vented below the control panel. As air enters it prevents heat leaking out. Air in oven is sealed off from cooling air around the shell.

Caloric, Wyncote, Pa.

For details, check No. 9 on coupon, p 239



Thermador offers two new built-in oven hoods to match its new electric oven line. Hoods work at 150 cpm to exhaust heat, odors, moisture. New ovens in single, side-by-side, and stacked double models have automatic controls and deluxe features like three-speed broiling spits. Easily removed doors, racks and rack supports, swing-up elements, and projection-free control panel make cleaning easy. Matching range tops come in two- to six-element units in 17 versions.

Thermador, Los Angeles.

For details, check No. 10 on coupon, p 239

New products continued on p 227



BRUCE Fireside Plank®

Random floor with dramatic dark finish

Look what Bruce has done to strip oak . . . combined a glamour finish and random widths to produce a floor with remarkable decorative effect at little expense. The dramatic Midnight color is definitely modern. Alternating 2¼″ and 3¼″ widths create an interesting plank effect. Fireside Plank costs little more than regular strip flooring, and its factory finish saves the time and expense of on-the-job sanding and finishing. Laid like regular strip, this distinctive flooring gives your homes far more built-in value and buyer appeal. Write for color booklet. You'll find our catalog in Sweet's Files.

BRUCE®

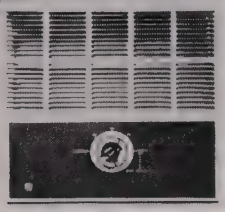
E. L. BRUCE CO., MEMPHIS 1, TENN.

World's largest manufacturer of hardwood flooring

A feature floor for "special" rooms

start on p 218





Jet cooling has been added to the Jet Heet system which makes use of narrow flexible ducts to deliver high-velocity (625 cfm) air to aspirating registers. Ducts are fiberglass and neoprene-covered aluminum, are only 3¼" in diameter so they can be snaked through a wall easily in new or remodeling work. Air is cooled to 40F, mixed with warm air at register to get a comfortable temperature. Also new (left) a thermostatic register that varies air flow during the heating cycle to hold a dial-set temperature. Register is set full open for cooling cycle.

Jet-Heet Inc, Englewood, N.J.

For details, check No. 11 on coupon, p 239



Ceramic fireplace is a high-styled efficient radiator that installs as easily as any freestanding fireplace. It is fired from silicon carbide, the strongest available refractory. Two models are available: Igloo (shown) is 30" wide, 27" deep, 33½" high, weighs 250 lb, costs $295 FOB Taunton, Mass.; Beacon is 24"x45", weighs 350 lb, costs $336. Units come with firescreen and chimney sleeve, can connect to existing chimney or to stock 8" prefab chimney. Shell never gets too hot to touch, comes in slate gray with brown tones.

Strawberry Bank Craftsmen, Little Compton, R.I.

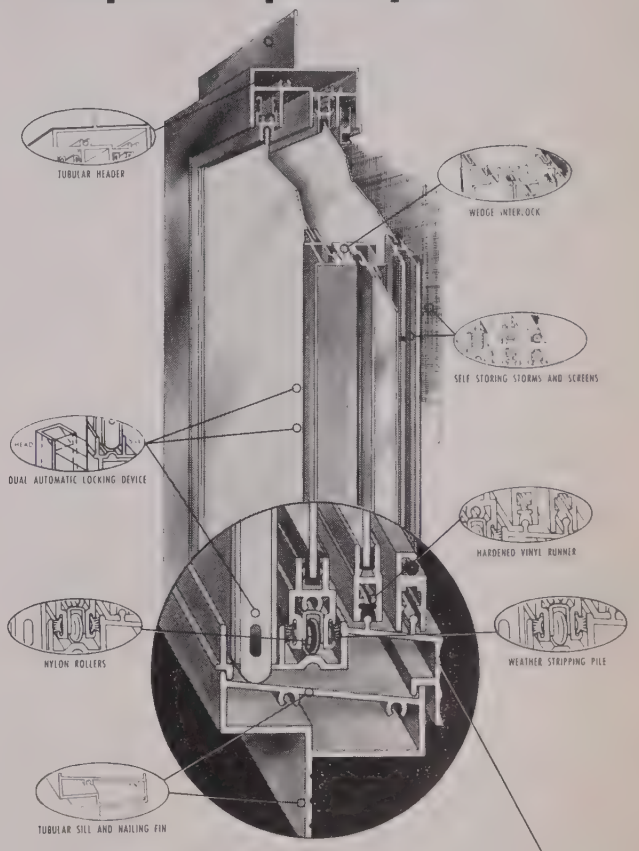
For details, check No. 12 on coupon, p 239

New products continued on p 228

mr. distributor:

if you're looking for an ALUMINUM HORIZONTAL ROLLING WINDOW MANUFACTURER who makes NO "back-door" sales, assures prompt deliveries, trains distributor salesmen in the field, offers competitive prices *plus* —

all this



FROST FREE FEATURE—REMOVABLE VINYL TRACK

you should investigate . . .

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See us at the N.A.H.B. show. Booths 1727 - 1728 McCormick Place, Chicago.

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Gentlemen: Please send me all the facts about an exclusive SLIDAROL franchise.

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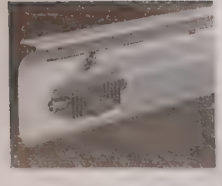


EDWARDS
ZONE CONTROL
SAVES UP TO
30%
IN FUEL COSTS

Your houses will sell faster if you offer prospective buyers a hydronic heating system that saves the owner up to 30% in fuel.

With the Edwards (hot water) hydronic heating system you can offer Zone Valves which regulate temperatures in various parts of the home, keep cats cool and people warm, save hundreds of dollars over the years and help you sell homes.

Write for your free 17" x 22" portfolio of plans which completely describes Edwards quality line of time-tested Zone Valves, hydronic heating systems and silent air-conditioning.





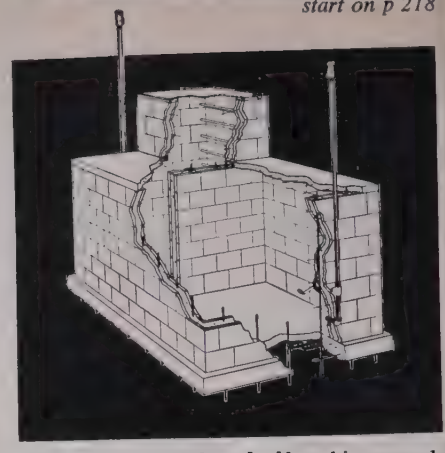
EDWARDS PACKAGED HYDRONICS — Boilers, zone valves, circulators and baseboard radiation

Write: Dep't. H-10
Edwards Engineering Corp.
Pompton Plains, N. J.

EDWARDS ENGINEERING CORP. Pompton Plains, N. J. • TEmple 5-2808

New products

start on p 218



Precast concrete shelter big enough for a family of four is being sold in kit form for $650. Kit includes interlocking pre-stressed masonry units, prefabbed hatches and doors, air circulating system, plans and installation manual. Design is cited by OCDM as giving "almost absolute fallout protection."

Natl Fallout Shelters, Florence, Ala.

For details, check No. 13 on coupon, p 239



Prefab screen room can enclose new or existing patios, breezeways, porches, etc. Stock aluminum units come 7′ high, 10′ or 12′ wide, 12′, 15′, or 20′ long. Separate screen sections can be ordered in 5′, 6′, 7½′, 9′ lengths. A 12″ kick plate is built into all sections. Screening is Fiberglas, can be replaced with locally made glass inserts.

Cupples Co, St Louis.

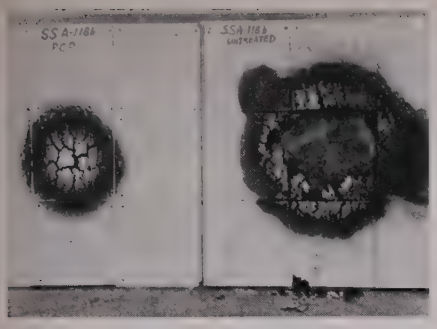
For details, check No. 14 on coupon, p 239



Back-outlet toilet—the only one on the residential market—is introduced by AllianceWare. Besides offering economies of above-the-floor plumbing, DaVinci model has pedestal base to eliminate wall hanger. Base has square lines for easy flooring. Unit needs no protecting button caps or wall bolts.

AllianceWare, Alliance, Ohio.

For details, check No. 15 on coupon, p 239



Fire-resistant ceiling in fiberboard acoustical tile is now possible. Pyrochem impregnation gives wood fiber tile a Type I flame-spread rating (the same class as mineral tile) for only a small increase in price. Six patterns in fissured, striated, perforated, and decorated tile come in 12"x12" and 12"x24" units ½", 9/16", and ¾" thick for any installation method.

Simpson Timber, Seattle.

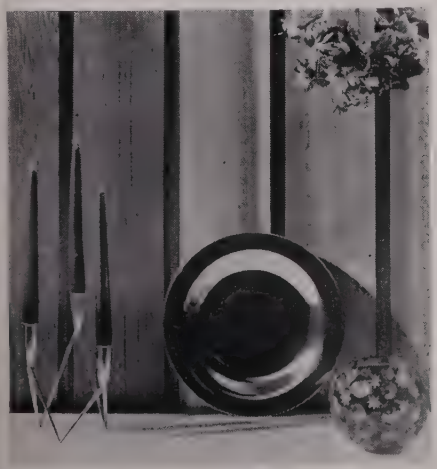
For details, check No. 16 on coupon, p 239



Incombustible tile looks like mineral tile, goes up like woodfiber, is compounded of mineral wool, has a self-leveling t&g joint, can be stapled to furring or adhered to existing ceiling. Tile can be butted to give monolithic effect, comes 12"x12"x⅝". Deep fissured surface has good acoustical properties.

Armstrong Cork, Lancaster, Pa.

For details, check No. 17 on coupon, p 239



Board-on-board design in a single-layer is new in Clear Channel western red cedar. Exaggerated shiplap leaves wide channel when applied. Clear Channel, like all cedar paneling, comes in vertical, flat, or mixed grain with smooth or rough-sawn surface. Panels are kiln dried, come any specified length.

Western Red Cedar Lumber, Seattle.

For details, check No. 18 on coupon, p 239

New products continued on p 230

CREATES A NEW PRIVATE WORLD OF *Living* BEHIND GLEAMING WALLS OF GLASS



The wonderful world of Eichler

is enhanced by partitions of 7/32" patterned glass by Mississippi in Bay area residences, Palo Alto, California. Architects: Jones & Emmons and Anshen & Allen.



Owners can live, entertain, relax in the delightful atmosphere of simple elegance in these distinguished Eichler Homes, confident that the handsome translucent glass that floods interiors with diffused daylight, also protects their privacy completely. Glass does so much in these homes to achieve a feeling of spaciousness and friendliness. Effectively used in daylighting screens around patio courts and in doors, it floods adjoining areas with flattering "borrowed light", yet never needs painting, wipes shining clean with a damp cloth.

To add lustre to living, more and more builders are using beautiful, light diffusing glass by Mississippi. Available at better distributors in a wide range of patterns and surface finishes wherever quality glass is sold.



Write today for free booklet. Photographs of actual installations provide hundreds of stimulating decorating ideas. Address Dept. 9.

KEEP AMERICAN WORKERS BUSY BUY... UNITED STATES GOODS

MISSISSIPPI GLASS COMPANY

88 Angelica St. • St. Louis 7, Missouri

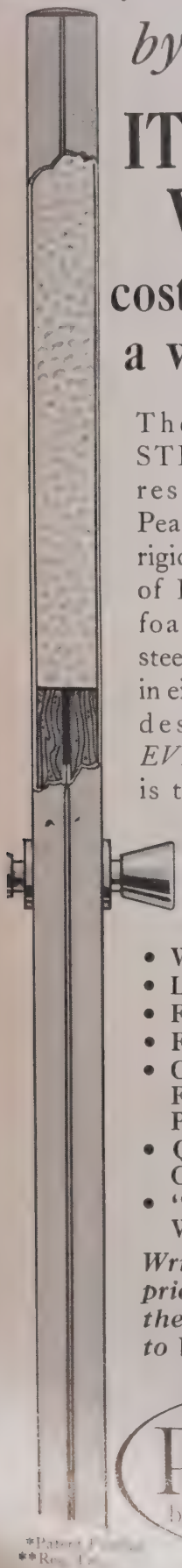
NEW YORK • CHICAGO • FULLERTON, CALIFORNIA

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

Introducing . . . the new steel, rigid-foam-core, flush

Ever Strait Door

by Pease



IT CAN'T WARP

costs less than a wood door

The new EVER-STRAIT* exterior residence door by Pease is made with a rigid, compressed core of Koppers Dylite** foam between two steel panels. Available in eight attractive light designs, the new *EVER-STRAIT* door is the *lowest cost answer to warp-free doors*. Plus, they offer these important advantages:

- **Warp-Free**
- **Light Weight**
- **Fully Insulated**
- **Factory Primed**
- **Complete Door-Frame-Hardware Package**
- **Quiet Cushion Closing**
- **"Refrigerator" Weatherstripped**

Write today for sizes, prices and designs in the booklet "Welcome to Warp Free Doors."

Pease
building materials

*Patent
**Reg.

PEASE WOODWORK COMPANY
Hamilton, Ohio



Geospace Dome now comes in junior size for use as utility shed (above), summer cabin, pool cabana, toy house, etc. Domette is 6'10" high, 9'6" across, weighs less than 100 lb, retails for $122.50. Two people can bolt the Fomecor paper and plastic sandwich panels together in less than two hours.

Filtered Rosin Prods. Baxley, Ga.

For details, check No. 19 on coupon, p 239



Agricultural panel, was developed for low-cost exterior construction jobs like farm buildings, etc. Ag-Ply is an unsanded panel, can have limited open defects, but it is bonded with the same glues marine plywood uses and must meet the commercial standard for exterior fir plywood.

DFPA, Tacoma.

For details, check No. 20 on coupon, p 239

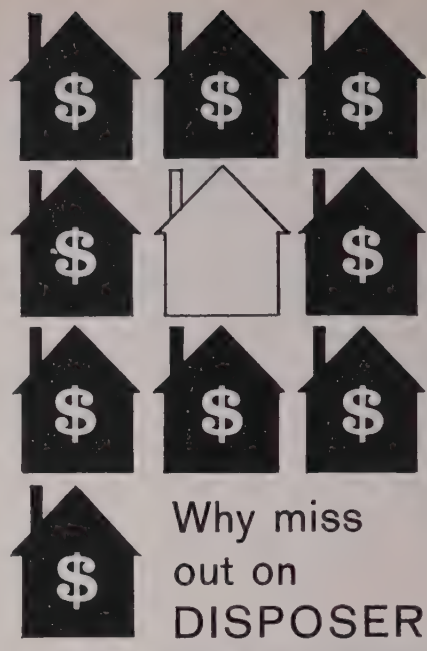


Folding platform makes an easily transported and steady scaffold. It rolls on large ball-bearing casters that lock securely. Unit weighs only 65 lb, is 4' long, 52½" high, 26½" wide, folds to 9½" for storage. It adjusts to five working heights to reach 11' ceilings.

Roll-a-Fold, Seattle.

For details, check No. 21 on coupon, p 239

New products continued on p 231



Why miss out on DISPOSER

PROFITS?

ONLY ONE WIRED HOME IN TEN NOW HAS A FOOD WASTE DISPOSER. The other nine are your potential customers. Cut yourself in on a big, profitable slice of your local market with NATIONAL Food Waste DISPOSERS!



Citation Model 744-P

With NATIONAL DISPOSERS you get:

- A full line in a wide price range.
- Exclusive "Jiffy Mount" design for fast, one-man installation.
- **A service policy that pays you a scheduled rate for in-warranty service.**
- Plus other exclusive features.

Ask your NATIONAL DISPOSER Representative or Distributor about our full line of Commercial Disposers, too, or write for details.

***NATIONAL®* DISPOSER**

A PRODUCT OF
PLUMBING EQUIPMENT DIVISION
NATIONAL RUBBER MACHINERY CO.
920 LAFAYETTE ROAD
MEDINA, OHIO

start on p 218



Fiberglass shower stall combines receptor, three walls, and doorway in a single lightweight fixture. Low gloss finish is resistant to mold, alkalis, and household solvents. Color is moded in. Shower is being introduced in two models, 34″x48″ at $146 retail, and 32″x32″ at $122.

Owens-Corning, Toledo.

For details, check No. 22 on coupon, p 239



Plastic shelf rack of DuPont Delrin resin offers exceptional ease of adjustment. Shelves move just by pushing in the support tabs; resilient tab springs back when released. Injection molded strips come in 24″ lengths, need only be screwed in place.

Plastic Prods, Grand Haven, Mich.

For details, check No. 23 on coupon, p 239



Portable photo copier comes packed in an attache case complete with all accessories. It will copy anything in any color in sheets up to 8½″x14″. It is simple to operate, lightweight (12 lb), compact (17½″x12¾″x4¾″). Matching book copier weighs 19½ lb, is 6¾″ thick. Sheet copier sells for $149.50, book model for $199.50.

Anken Film Corp, Newton, N.J.

For details, check No. 24 on coupon, p 239

New products continued on p 232



Rilco Laminated Wood Adds Natural Beauty and Warmth to Any Home

An attractive site . . . a fresh, appropriate design . . . the special warmth and beauty of exposed laminated wood beams—all are richly combined by architect Lyle Rohde, A.I.A., in his new Salt Lake City home.

And the laminated wood beams are Rilco. As Mr. Rohde discovered they blend easily with any style architecture, and the fine workmanship and natural beauty of Rilco products please the most exacting owner.

Rilco laminated wood structural members are economical—initial cost is low, no special skill is required to erect them, and upkeep expenses are minimum.

Whether it's residential, church, school, commercial or industrial building, Rilco helps you build better . . . for less. Our field sales engineers will be happy to consult with you, without obligation.

Weyerhaeuser Company
Rilco Laminated Products Division
W843 First National Bank Building
St. Paul 1, Minnesota
District Offices: Tacoma, Wash.
Fort Wayne, Ind., Linden, N. J.

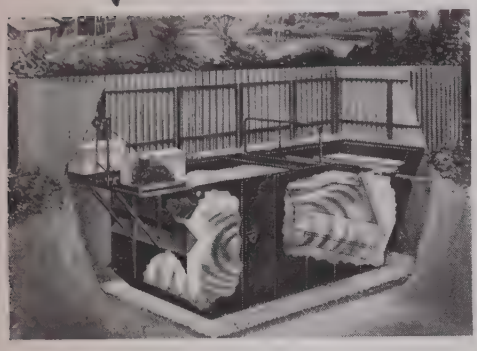


Lyle J. Rohde residence, Salt Lake City, Utah. Architect: Lyle Rohde, A.I.A. Construction features Rilco laminated wood beams up to 49' 8" in length.



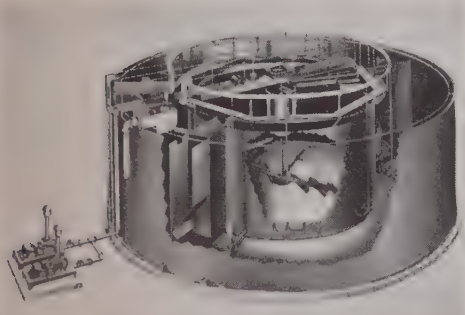
S&L

Sewage Treatment



FOR OUTLYING SUBDIVISIONS
Smith & Loveless Factory-Built "Oxigest" Sewage Treatment Plants provide dependable treatment of domestic sewage in outlying areas not served by municipal sewer facilities... for subdivisions, motels, schools, factories, apartments, mobile home parks and other applications.

FOR GROWING SUBDIVISIONS
"Oxigest" plants can be installed in parallel, as needed, to serve a growing subdivision or development. Available in standard-size, single units or larger, bolt-together units.



FOR LARGER SUBDIVISIONS
Smith & Loveless Field-Erected "Oxigests" are capable of handling the sewage treatment needs of larger subdivisions, even small communities up to 5,000 persons.

Write for new product bulletin on Smith & Loveless equipment. Just write Department 70.

Smith & Loveless

UNION U

P. O. BOX 8884
KANSAS CITY 15, MISSOURI
PLANT: LENEXA, KANSAS

(3001)

New products

start on p 218



Luminous ceiling of this bathroom is made of continuous prismatic plastic extrusions. The plastic can be opal or clear polystyrene or acrylic, is made in standard modular sizes or to any length. Panels have greater strength than most luminous ceiling materials, are more rigid, more light stable, fit inexpensive suspension systems.

K-S-H Plastics, St Louis.

For details, check No. 25 on coupon, p 239



Desk thermostat is a prestige item with merchandising possibilities. Pneumatically operated unit is desk-clock sized, covers 60F to 85F range with ½° response. It is claimed to be accurate to ± 1°. Unit can be used for heating and cooling, works by direct control. Case comes in egg white or light gray with silver knob and trim.

Powers Regulator, Skokie, Ill.

For details, check No. 26 on coupon, p 239



New acoustic duct for air conditioning comes ready formed: the stack at the right fits into the carton at the left, and ducts spring into shape when unpacked. Fiberglass insulation not only cuts heat loss but almost completely dampens equipment noises and room-to-room noises. Cost: directly competitive.

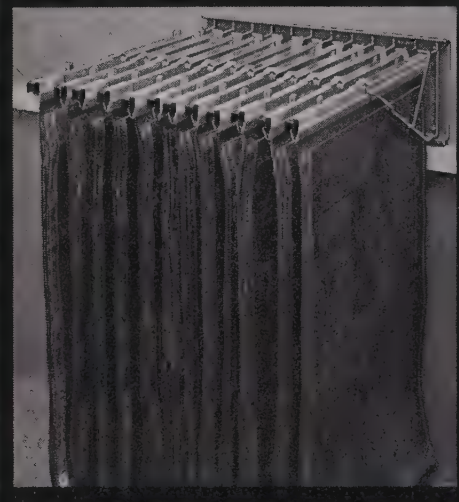
Owens-Corning, Toledo.

For details, check No. 27 on coupon, p 239

New products continued on p 233



GOT A COMPLICATED FILING PROBLEM?



HERE'S THE EASY WAY TO SOLVE IT!

PLAN HOLD vertical and roll files are engineered for filing drawings and plans, singly or in sets. They make systematic filing easy, provide positive protection and identification, speed use, save space . . . an efficient, cost-saving business tool that every builder, architect, banker needs.

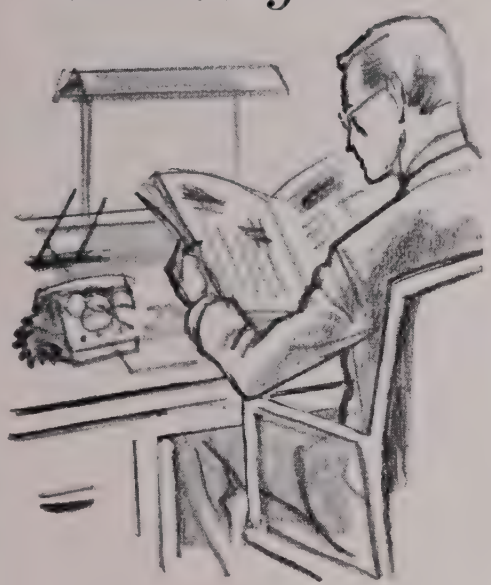
Wall mounted, mobile, portable and cabinet models in modular sizes to match your needs. Look for PLAN HOLD in the Yellow Pages under Filing Equipment or write direct for literature and name of dealer.

PLAN HOLD®

PLAN HOLD CORP., Dept. B
5204 Chakemco St., South Gate, Calif.
251 S. River St., Aurora, Illinois

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says famed builder-banker TOM COOGAN:

"I don't see how any intelligent builder could prosper without HOUSE & HOME. *It is the only place where we can get an impartial report on all the developments that will affect our business."*

House & Home

published by TIME INC.

New products

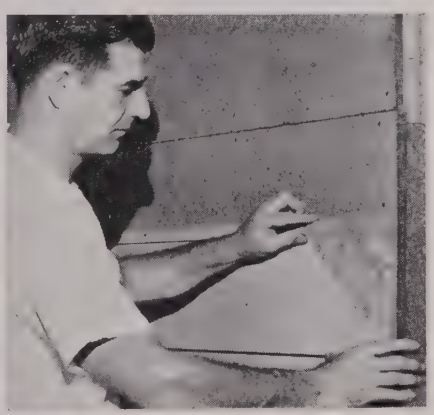
start on p 218



Big siding panels—up to 4'x10'—are made for vertical paneling. New primed Insulite sheets come grooved or plain to complement horizontal lap siding introduced last year. Lap siding in 16' lengths comes 8" or 10" wide.

Insulite, Minneapolis.

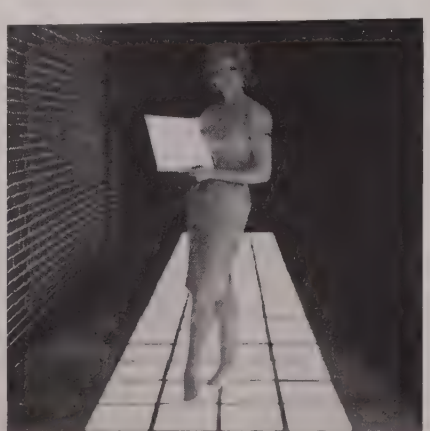
For details, check No. 28 on coupon, p 239



Siding backerboard is now available in fiberglass. The new insulation is made of Owens-Corning's AF fiber. It is non-wicking, will allow condensation to escape freely through siding weep holes. Backed siding is acceptable without sheathing under the new MPS.

Owens-Corning, Toledo.

For details, check No. 29 on coupon, p 239



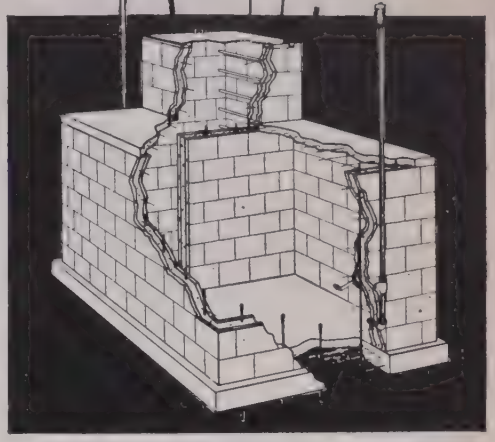
Luminescent sidewalk has been installed at Sylvania's Lighting Prods Division. Lighting units are Panelscent lamps —steel sheets coated with electroluminescent phosphors. These thin panels are set in aluminum panels, covered with weatherproofing plastic, embedded in the ground.

Sylvania, Salem, Mass.

For details, check No. 30 on coupon, p 239

Publications start on p 234

build your own . . . . . **FALLOUT SHELTER!**



with this sensational . . . .

PRESTRESSED CONCRETE

PACKAGE

EVERYTHING you need . . . . including complete plans, step by step installation manual, interlocking concrete wall units, prefabricated hatches and covers, air circulating system . . . . ALL the components required except locally available ready mixed concrete. Installation time approximately two days.

THIS prestressed concrete shelter affords maximum protection . . . . carrying the highest rating obtainable by Civil and Defense Mobilization.

$1,085

FOR FAMILY OF FOUR—LARGER SIZES AVAILABLE

F.O.B. Florence Ala., or nearest warehouse.

You can't find a better shelter . . . to save your life!

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NATIONAL FALLOUT SHELTERS, Inc.

P.O. Box 400—Dept. H.H.I.—Florence, Ala.

A Division of National Pool Equipment Co.

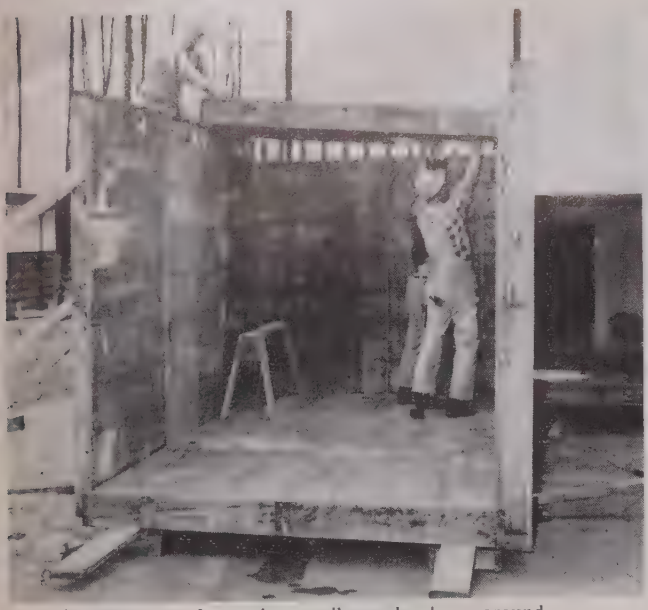
☐ Please send brochure and prices

☐ Have representative call

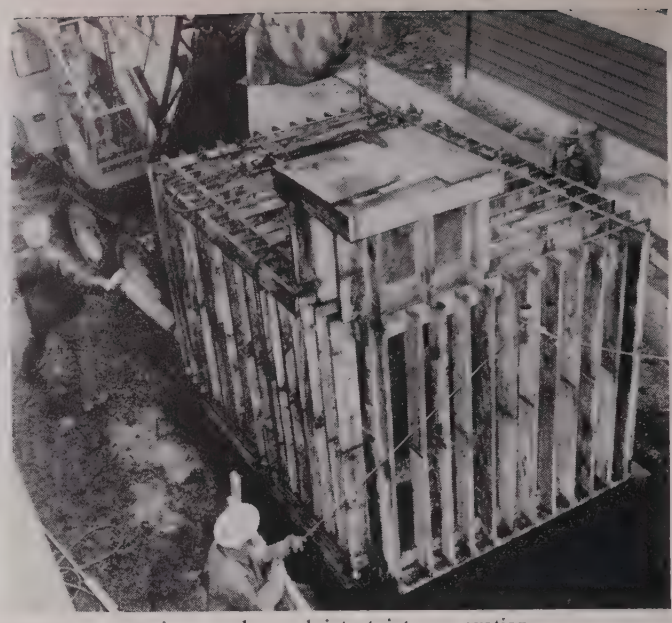
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ROOF PANELS are fastened to wall panels above ground.



ENTIRE UNIT is crane-lowered intact into excavation.



EXIT HATCH and vents are above ground.

You can build this fallout shelter from stock plans

It's one of three plywood fallout-shelter plans offered by DFPA. The shelter is assembled above ground then lowered into an excavation. The other models go in the basement or above ground. As developed by DFPA researchers, the underground shelter will resist a 20-megaton bomb dropped seven miles away. It will stand a 10′ head of water, support cars parked above it. The shelter uses standard lumber and plywood but is no do-it-yourself project. Cost: about $1,500.

Douglas Fir Plywood, Tacoma

For copy, check No. 31 on coupon, p 239



STORAGE WALL holds canned supplies.

How to cut trucking costs

Ford has issued a 96-page reference guide on how to get better performance and service for your truck—whatever the make or model. Among the 48 chapter headings: Engine tune-up—no $5 job, Gas mileage secrets, How a weak battery uses gas, Proper insurance can save you money, Ten points for low-cost tire care, Fitting the truck to the job, How to fight truck fires.

Ford Motor Co, Detroit.

For copy, check No. 32 on coupon, p 239

Modern plumbing and heating

That's the subject of the plumbing industry's new 16-page promotion booklet. It covers what P.I.P.E. means to builders, architects, engineers, building operators; the dos and don'ts of good plumbing care, etc.

P.I.P.E., Los Angeles

For copy, check No. 33 on coupon, p 239

Curtain and window walls

A 16-page catalog shows Tri-[illegible] full line of curtain, window, and [illegible]

tion walls for hotels, motels, apartments, etc and typical specs for walls and intermediate projected windows. Details include quarter-scale sections of the metal elements.

W.P. Fuller & Co, Covina, Calif.

For copy, check No. 34 on coupon, p 239

Kitchen cabinet brochure

The lumber manufacturers' latest "Why wood is best" booklet is on kitchen cabinets. It is illustrated with four-color photographs and covers these topics: wood's suitability, its natural properties, workability, insulation qualities, beauty, finishing, and prefinishing.

NLMA, Washington, D.C.

For copy, check No. 35 on coupon, p 239

New ceramic tile standard

A new Commerce Dept simplified practice recommendation (R61-61) on *Ceramic tile for floors and walls* is now on sale from the Government Printing Office for 10¢. The revised standard includes new details on flat wall and floor tile, mosaic tile, and quarry tile, and illustrations of currently used trim shapes. Also added: data on a new modular mosaic series and new slip-proof mosaics. The tile industry's grade system is described and illustrated.

Superintendent of Documents, US Government Printing Office, Washington 25, D.C.

For copies, write direct to the office

New NEMA standards

Among the electrical manufacturers' recent releases are standards covering two household appliances:

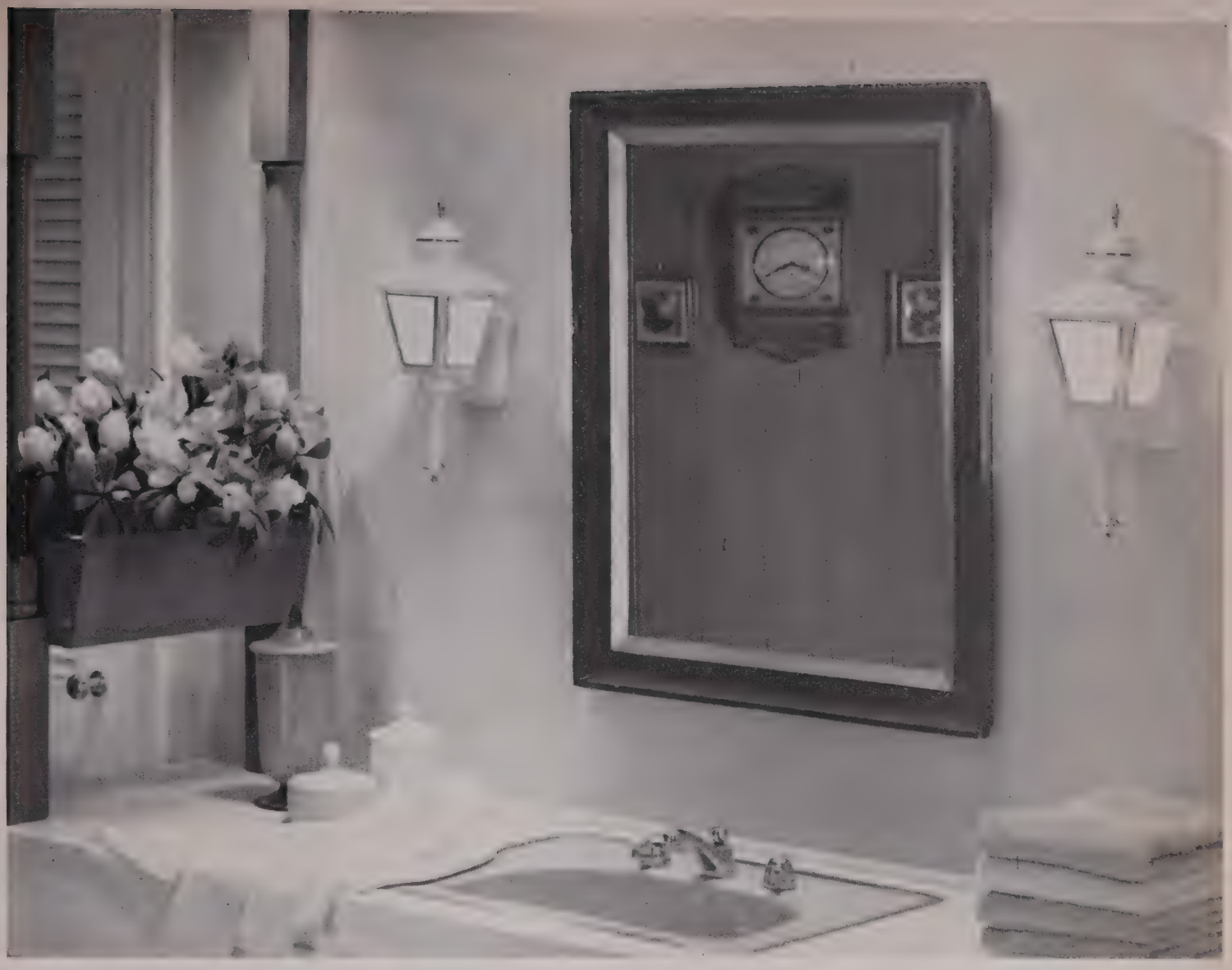
DH 1-1961 Dehumidifiers sets performance standards for electric mechanical dehumidifiers, covers definitions, ratings, tests, safety. 25¢.

HR 1-1961 Household electric refrigerators defines refrigerators and combination refrigerator-freezers, provides a procedure for computing net storage area and shelf area, and determining performance. 50¢.

Natl Electrical Mfrs Association, 155 East 44 St, New York City.

For copies, write direct to the association

Publications continued on p 236



COACH LIGHTS IN THE BATHROOM?

another new Glamour Glow lighting idea by MOE Light

for only $19.30**

Sure, decorators dare to put coach lights into bathrooms* for a dramatic new approach to lighting. An idea like this puts hundreds of dollars' extra SELL into your homes for as little as $19.30.** MOE Light decorative lighting specialists have lots of other unique ideas to add Glamour Glow lighting to your homes . . . for that important extra sales appeal. And, at equally sensible prices. See your MOE Light representative today.

*Terrific for kitchens, dining areas, game rooms . . . and, of course, outdoors, too.

**as shown . . . M-810-8 Lantern, $9.65 each, list.

Your FREE copy of the new MOE Light catalog, Inspiration Lighting, is now ready. It's truly a library of lighting ideas. Write for yours today.

MOE LIGHT

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Thomas Industries Inc.
207 E. Broadway
Louisville 2, Kentucky

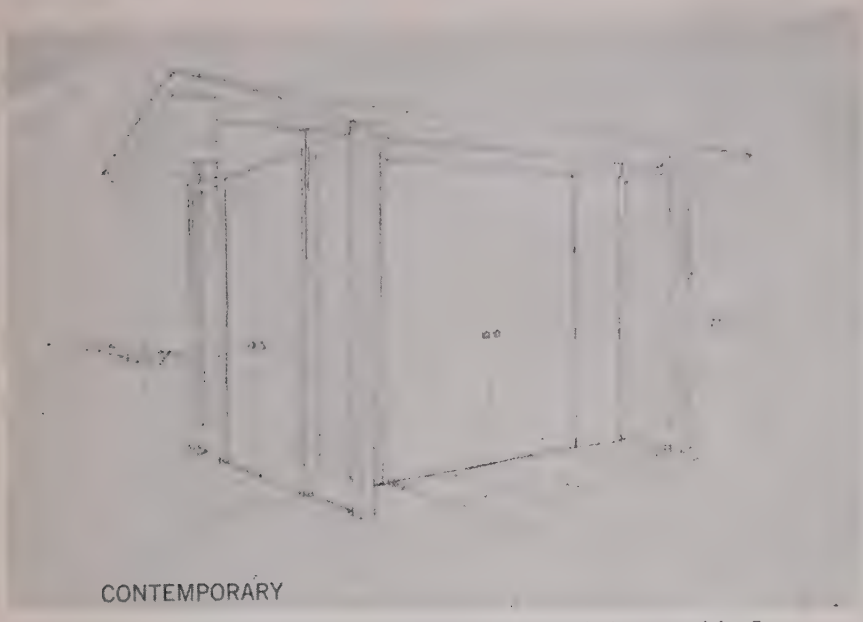
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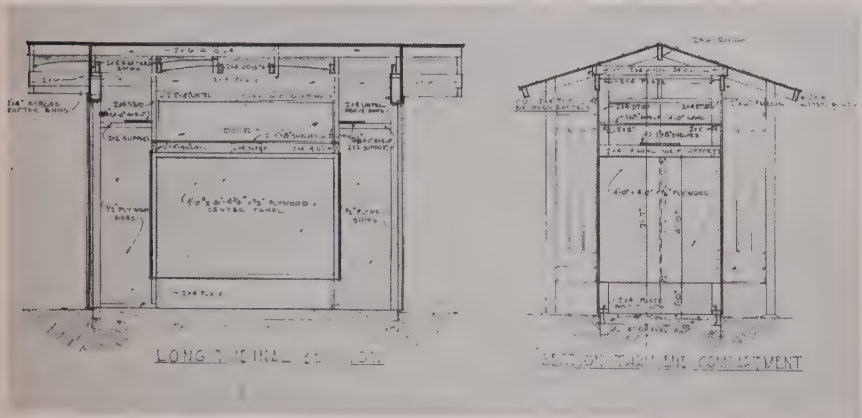
CONTEMPORARY STYLE is one of four facades for garden shed suggested by Scott.

Here are free garden-house plans

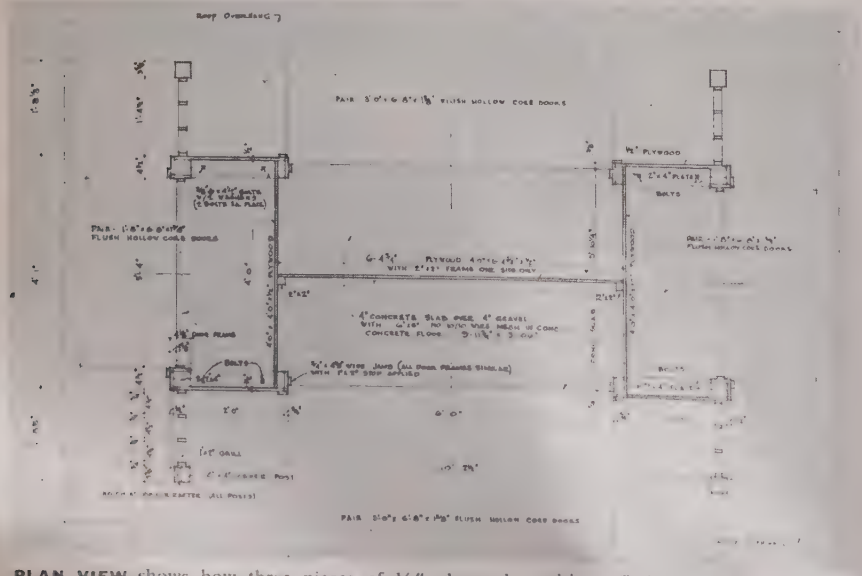
As part of its gardening promotions, O. M. Scott & Sons is offering the neat garden shed shown here. The shed is designed to sit on a 4′x10′ slab, to provide 40 sq ft of enclosed storage and over 56 sq ft of roofed storage. The enclosed space is in two 4′ and two 6′ cabinets about 2′ wide and 7′7″ high. The structure is sided with ½″ plywood over 2x4 and 4x4 framing. Storage areas are enclosed with stock flush doors. It does not need any further siding but can be covered to match the house design.

Scotts, Marysville, Ohio.

For copy, check No. 36 on coupon, p 239



SECTIONAL VIEWS show details of the framing and paneling and the simple rafter roof.



PLAN VIEW shows how three pieces of ½″ plywood partition off the four storage areas.

Automatic innkeeping guide

Honeywell's system for controlling motel and hotel operations are described in a new commercial division booklet. Covered are message signals, morning calls, room status and maid control systems, clock systems, electronic air cleaners, security, fire detection, air conditioning controls, etc.

Minneapolis-Honeywell, Minneapolis.

For copy, check No. 37 on coupon, p 239

Subfloor manual

A new manual for building professionals tells how to prepare subfloors for rubber and vinyl flooring and wall surfaces for rubber and vinyl cove base. The manual, prepared by the flooring technical committee of the Rubber Manufacturers Association, is the fourth edition of the guide. It replaces an issue brought out in 1946.

Rubber Mfrs Association, New York City.

For copy, check No. 38 on coupon, p 239

Forklift truck catalog

Eight new models of heavy-duty equipment are shown in Towmotor's Monarch series catalog. Load capacities range from 10,000 lb to 24,000 lb, wheelbases from 86″ to 120″. Power options include gasoline, diesel, and Lp-gas engines.

Towmotor Corp, Cleveland.

For copy, check No. 39 on coupon, p 239

Water heater literature

A.O. Smith's Consumer Products Division has just issued a new catalog covering specifications and related data on five Permaglas models—PGO Citation, PGD Aristocrat, PED Electra, Valiant, and Valiant I.

A.O. Smith Corp, Kankakee, Ill.

For copy, check No. 40 on coupon, p 239

Package sells color hardware

Sargent has put together a new merchandising package to promote the sale of its high-style SentryLock knob sets. Included: reprints of four-color trade and consumer ads, a color catalog section and price list, a stockroom chart, sales tips for builders, direct mail brochures, a gold key presentation, and displays.

Sargent & Co, New Haven.

For copy, check No. 41 on coupon, p 239

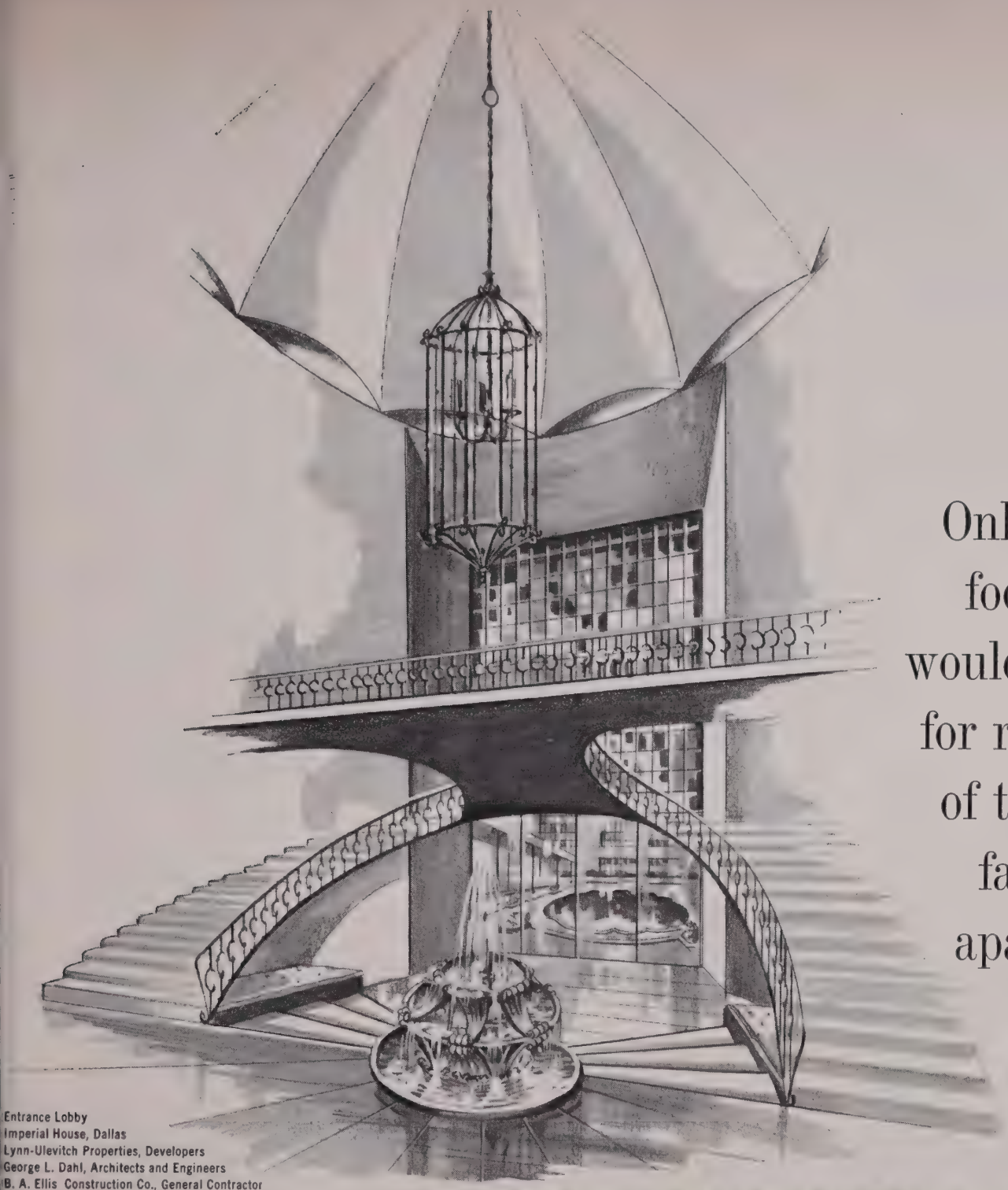
Door detail sheet

Steelcraft's new standards sheet for its metal door line shows 25 door styles, ⅜-scale section details of transoms, sidelights, and borrowed lights, standard jamb and wall sections for 12 types of walls.

Steelcraft Mfg Co, Cincinnati.

For copy, check No. 42 on coupon, p 239

Publications continued on p 239



Only one foodkeeper would do for residents of this fabulous apartment

Entrance Lobby
Imperial House, Dallas
Lynn-Ulevitch Properties, Developers
George L. Dahl, Architects and Engineers
B. A. Ellis Construction Co., General Contractor



Model 991NA

Fabulous FOODARAMA by Kelvinator

Even before plans were completed on Imperial House, Dallas developers Sidney Lynn and Dr. Herman Ulevitch knew exactly the foodkeeper they wanted for these twenty-two hundred to three thousand square foot, home-like apartments.

"From the conception of the idea of the Imperial House," they wrote us, "we were certain we wanted the Foodarama refrigerator for the kitchens because it is the only foodkeeper that is in keeping with the quality of design and elegance of appointments of these luxurious apartments."

"With its 12 cu. ft. De Luxe refrigerator, 6 cu. ft. upright freezer, and automatic icemaker in a cabinet only 41" wide, the Foodarama fulfilled our requirements perfectly. The upright freezer provides more than adequate frozen food living in a minimum of space and the no defrosting feature and ice maker provide a maximum of convenience. We are sure that our clientele will give Foodarama an enthusiastic reception."

For an enthusiastic reception for your apartments—at surprisingly low cost—include Fabulous Foodarama by Kelvinator in the plans right from the start.

Kelvinator Appliances

KELVINATOR DIVISION, AMERICAN MOTORS CORP., DETROIT 32, MICHIGAN

Refrigerators • Ranges • Automatic Washers • Clothes Dryers • Food Freezers • Room Air Conditioners • Dishwashers • Disposers • Water Heaters • Dehumidifiers

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BILT-WELL Casement Window



Section through Mull, two units joined. Unitized sill.

*BILT-WELL "Job-Tested" means the products have been thoroughly tested for actual construction for ease of installation, weather-tightness, ease of operation, durability and acceptance.

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Build Well with BILT-WELL WOOD WORK

The patented unitized sill construction on BILT-WELL Casements permits joining unlimited numbers of Casements easily and economically in Angle Bays, Bow Bays and multiple horizontal groupings. Because centers rest on plate or masonry, no blocking is required, and long cumbersome sills are eliminated.

* Always Look for These Other Bilt-Well Job-Tested Features

Double Weatherstripping
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Concealed Hinges
Dovetailed Frame Construction

Widest Choice: Three widths—16″, 20″ and 24″ glass. Single or ½″ insulating glass. Horizontal and vertical divisions, or removable grilles.

Every BILT-WELL Casement exceeds all U. S. Government requirements and are so labelled—permanently and clearly! U. S. Patent Nos. 2,866,234 and 2,918,710.

Mfd. since 1866 by CARADCO, Inc. Dubuque, Iowa

start on p 234

Arizona building stone
The state development board has issued a 48-page brochure on native building stone. The booklet is an economic study of the industry, describing the types of stone available, with detailed geologic and production data. Brief sections cover mining rights, transportation rates, labor market, taxes and depletion allowances, etc.

Arizona Development Board, Phoenix.
For copy, check No. 43 on coupon below

Sewage treatment bulletin
Dorr-Oliver describes its new compact treatment plants in a 12-page brochure. Bulletin No. 7330. The booklet describes and illustrates design and operating features, installation practices, and other aspects.

Dorr-Oliver, Stamford, Conn.
For copy, check No. 44 on coupon below

New lighting catalog
Emerson's full Imperial line is shown in the company's newest catalog. The 48-page book shows, in color, suspended, wall, and ceiling fixtures in many modern and traditional styles. It also covers modular kitchen and bath lights, fluorescent fixtures, and a range of outdoor lanterns. The catalog is indexed with a picture guide.

Emerson Electric, St Louis.
For copy, check No. 45 on coupon below

Comprehensive plumbing catalog
Eljer has a new 16-page catalog of its full line of fixtures and brass fittings. Among the new items featured: the Easton, a new wall-hung toilet, and the Elongated Emblem, a siphon jet priced like a reverse trap.

Eljer, Pittsburgh.
For copy, check No. 46 on coupon below

Want more information?

The numbers below are keyed to the items described on the New Products and Publications pages. Check the ones that interest you and mail the coupon to:

House & Home Room 1960, Time & Life Building
Rockefeller Center, New York 20, N.Y.

NEW PRODUCTS • September

1. ☐ Owens-Corning friction-fit insulation
2. ☐ Owens-Corning floor insulation
3. ☐ Owens-Corning perimeter insulation
4. ☐ Owens-Corning all-in-one ceiling
5. ☐ Owens-Corning luminous-acoustic ceiling
6. ☐ Owens-Corning sound-control blanket
7. ☐ National Gypsum Spiral Core panels
8. ☐ Jenn-Air self-ventilating ranges
9. ☐ Caloric door-vented oven
10. ☐ Thermador built-in ranges
11. ☐ Jet cooling system
12. ☐ Strawberry Bank ceramic fireplace
13. ☐ National fallout shelter
14. ☐ Cupples prefab screen room
15. ☐ AllianceWare back-outlet toilet
16. ☐ Simpson fire-resistant tile
17. ☐ Armstrong mineral tile
18. ☐ Red cedar clear-channel paneling
19. ☐ Monsanto Goespace Domette
20. ☐ Ag-ply panels
21. ☐ Roll-a-Fold platform
22. ☐ Owens-Corning shower stall
23. ☐ Plastic shelf racks
24. ☐ Anken portable copier
25. ☐ KSH plastic ceiling
26. ☐ Powers desk thermostat
27. ☐ Owens Corning duct
28. ☐ Insulite primed siding
29. ☐ Owens-Corning backerboard
30. ☐ Sylvania luminous sidewalk

PUBLICATIONS

31. ☐ DFPA shelter plans
32. ☐ Ford truck operator's manual
33. ☐ P.I.P.E. promotion booklet
34. ☐ Fuller window-wall catalog
35. ☐ NLMA cabinet brochure
36. ☐ Scott's garden-shed plans
37. ☐ Honeywell innkeeping guide
38. ☐ Rubber tile subfloor guide
39. ☐ Towmotor forklift catalog
40. ☐ A.O. Smith water-heater brochures
41. ☐ Sargent merchandising package
42. ☐ Steelcraft door detail sheet
43. ☐ Arizona building stone
44. ☐ Sewage treatment bulletin
45. ☐ Emerson lighting catalog
46. ☐ Eljer plumbing catalog

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have dovetailed joint construction
have patented unitized sill
have gold-tone hardware
have choice of regular or thermal insulating glass

BILT-WELL DOUBLE HUNG WINDOWS
have flexible jamb-liner weatherstrip
have patented unitized sill
have removable sash
have jamb adjustors
have choice of regular or thermal insulating glass

BILT-WELL AWNING and AWNING-VUE WINDOWS
have removable sash
have concealed hinges
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have choice of operators
have gold-tone hardware
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CARADCO, Inc.
Dubuque, Iowa
Build Well with BILT-WELL WOOD WORK



All we did was make the fixtures. 24K gold plated. Hand chased. Hand finished. Not quite as costly as you might think, they do set a standard of taste...quality...luxury. A 'status symbol'? We just call it 'Crystal and Gold'. By Sherle Wagner. The set: $195.

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191	Carey Mfg. Co., The Philip *(Miami Cabinet Div.)*
56, 57	Cast Iron Pipe Research Assoc.
2	Congoleum-Nairn, Inc.
4	Crane Co.
78	Dow Corning Corp.
72	Du Pont De Nemours & Co., Inc., E. I. *(Elastomers)*
26	Du Pont De Nemours & Co., Inc., E. I. *(Polychemicals Div.—Plastics)*
182, 183	Edison Electric Institute
228	Edwards Engineering Corp.
73, 75, 77	Emerson Electric Mfg. Co.
195	Evans Pdts. Co.
37	Flinkote Co., The *(Monoform System)*
193	Float-Away Door Co.
28, 29	Ford Motor Co.
83	Frigidaire Div., The *(General Motors Corp.)*
64, 65	General Electric Co.
83	General Motors Corp. *(The Frigidaire Div.)*
11-14	Georgia Pacific Corp.
94, 95	Good Housekeeping Magazine
82	Harris Mfg. Co.
38	Hexcel Products, Inc.
210, 211, 233, 242	HOUSE & HOME
18	Hunter Div.
227	Ida Pdts. Co.
31	Insulation Board Institute
34, 35	Insulite Div. *(Minnesota & Ontario Paper Co.)*
6	International Paper Co. *(Long-Bell Div.)*
70	Jenn-Air Products Co., Inc. *(Residential Div.)*
197	Johns-Manville Corp.
237	Kelvinator Div. *(American Motors Corp.)*
68, 69	Kennatrack Corp.
243	Kentile, Inc.
217	Kewanee Mfg. Co.
7	Kingsberry Homes
36	Knape & Vogt Mfg. Co.
10	Lennox Ind.
204	Libbey-Owens-Ford Glass Co.
196	Ling-Temco Electronics, Inc. *(Temco Industrial Div.)*
6	Long-Bell Div. *(International Paper Co.)*

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200	Minnestota Mining & Mfg. Co. *(Adhesives, Coatings & Sealers Div.)*
34, 35	Minnesota & Ontario Paper Co. *(Insulite Div.)*
229	Mississippi Glass Co.
235	Moe Light *(Division of Thomas Ind., Inc.)*
15	Mueller Brass Co.
230	National Disposers, Inc.
92, 93	National Gypsum Co.
40, 41, 244	National Homes Corp.
86, 87	National Lumber Mfrs. Assn.
198, 199	National Oak Flooring Mfrs. Assn.
233	National Pool Equipment Co.
8	Norris-Thermador Corp. *(Thermador Electrical Mfg. Co. Div.)*
2A, 2B	Nutone, Inc.
214	O'Keefe & Merritt Co.
90, 91	Overhead Door Corp.
27	Pacific Lumber Co., The
230	Pease Woodwork Co., Inc.
232	Plan Hold Corp.
85	Portland Cement Assn.
30	Puritron Corp.
52, 53	Republic Steel Corp.
231	Rilco Laminated Pdts. Div. *(Weyerhaeuser Co.)*
33	Robertshaw Thermostat Div. *(Robertshaw-Fulton Controls Co.)*
98	Rolscreen Co.
48, 49	Ruberoid Co., The
194	St. Regis Paper Co. *(American Sisalkraft Co. Div.)*
80, 81	Schlage Lock Co.
184	Shearson-Hammill & Co.
240	Sherle-Wagner
59-62	Simpson Timber Co.
232	Smith & Loveless *(Div. Union Tank Car Co.)*
220	Sonoco Pdts. Co.
84	Southern Pine Assn.
216	Southwest Forest Industries
201	Stanthony Corp.
241	Structural Clay Pdts. Institute
8	Thermador Electrical Mfg. Co. *(Div. of Norris-Thermador Corp.)*
235	Thomas Ind., Inc. *(Moe Light Div.)*
220	Tibbals Flooring Co.
39	United States Ceramic Tile Co.
202	United States Plywood Corp.
192	Universal Rundle Corp.
42	Uvalde Rock Asphalt Co.
88, 89	Wabash Screen Door Co.
221	Weiser Co.
24, 25	West Coast Lumbermen's Association
5, 206, 207	Westinghouse Electric Corp.
19-22	Weyerhaeuser Co. *(Lumber & Plywood Div.)*
231	Weyerhaeuser Co. *(Rilco Laminated Pdts. Div.)*
96, 97, 178	Whirlpool Corp.
99-102	Youngstown Kitchens Div. *(American-Standard Corp.)*

Build in Sales Appeal . . . Brick by Brick

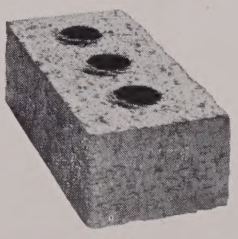


Brick resists:

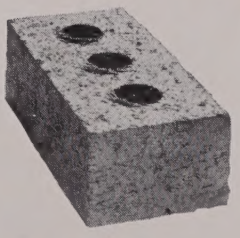
Wear. Brick never goes out of style, never wears out, lasts for lifetimes without costly maintenance.



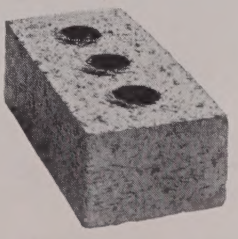
Fire. Heat and fire are part of the manufacturing process; fireproofing is permanently *burned* in.



Weather. Neither snow, nor rain, nor heat . . . nor any combination can penetrate impervious brick.



Insects. Brick offers neither sustenance nor haven for insect life; insects *cannot* bother brick.



Erosion. No significant physical erosion ever takes place; ancient Roman brick are still intact. Nor is there any erosion of public acceptance: brick is always welcome.

Brick resists

everything but Sales

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